TSD File Inventory Index

Date: September 13, 2005

Initial: CM Hansen

Facility Name: CMC Tech Center Inc. (One Folder Site)

Facility Identification Number: MID 041 803 123

A.1 General Correspondence	Y	**B.2 Permit Docket (B.1.2)**	
A.2 Part A / Interim Status	Y	.1 Correspondence	
.1 Correspondence	Y	.2 All Other Permitting Documents (Not Part of the ARA)	
.2 Notification and Acknowledgment	Y	**C.1 Compliance - (Inspection Reports)**	X
.3 Part A Application and Amendments	X	**C.2 Compliance/Enforcement**	X
.4 Financial Insurance (Sudden, Non Sudden)		.1 Land Disposal Restriction Notifications	
.5 Change Under Interim Status Requests		.2 Import/Export Notifications	
.6 Annual and Biennial Reports		**C.3 FOIA Exemptions - Non-Releasable Documents**	
A.3 Groundwater Monitoring		**D.1 Corrective Action/Facility Assessment**	X
.1 Correspondence		.1 RFA Correspondence	
.2 Reports		.2 Background Reports, Supporting Docs and Studies	
A.4 Closure/Post Closure	Y	.3 State Prelim. Investigation Memos	
.1 Correspondence	Y	.4 RFA Reports	X
.2 Closure/Post Closure Plans, Certificates, etc	Y	**D. 2 Corrective Action/Facility Investigation**	
A.5 Ambient Air Monitoring		.1 RFI Correspondence	
.1 Correspondence		.2 RFI Workplan	
.2 Reports		.3 RFI Program Reports and Oversight	
B.1 Administrative Record		.4 RFI Draft /Final Report	

TOTAL - 1

.5 RFI QAPP		.7 Lab data, Soil Sampling/Groundwater	
.6 RFI QAPP Correspondence		.8 Progress Reports	
.7 Lab Data, Soil-Sampling/Groundwater		**D.5 Corrective Action/Enforcement**	
.8 RFI Progress Reports		.1 Administrative Record 3008(h) Order	
.9 Interim Measures Correspondence		.2 Other Non-AR Documents	
.10 Interim Measures Workplan and Reports		**D.6 Environmental Indicator Determinations**	
D.3 Corrective Action/Remediation Study		.1 Forms/Checklists	
.1 CMS Correspondence		**E. Boilers and Industrial Furnaces (BIF)**	
.2 Interim Measures		.1 Correspondence	
.3 CMS Workplan		.2 Reports	
.4 CMS Draft/Final Report		**F Imagery/Special Studies** (Videos, photos, disks, maps, blueprints, drawings, and other special materials.)	
.5 Stabilization		**G.1 Risk Assessment**	
.6 CMS Progress Reports		.1 Human/Ecological Assessment	
.7 Lab Data, Soil-Sampling/Groundwater		.2 Compliance and Enforcement	
D.4 Corrective Action Remediation Implementation		.3 Enforcement Confidential	
.1 CMI Correspondence		.4 Ecological - Administrative Record	
.2 CMI Workplan		.5 Permitting	
.3 CMI Program Reports and Oversight		.6 Corrective Action Remediation Study	
.4 CMI Draft/Final Reports		.7 Corrective Action/Remediation Implementation	
.5 CMI QAPP		.8 Endangered Species Act	
.6 CMI Correspondence		.9 Environmental Justice	

Note: Transmittal Letter to Be Included with Reports.
Comments: Documents do not justify individual file per schedule.

A.1 Public Participation

UNITED ST ES ENVIRONMENTAL PROTECTION . NCY
REGION V

DATE: September 26, 1983

SUBJECT: Ethyl Corporation
MID 041803123

FROM: Sharon Kiddon
RAIU

TO: David Homer
STU #3

This is to inform you that the public comment period for Ethyl Corporation, Ferndale, Michigan, ended September 23, 1983. There were no public comments received.

cc: Part A File
State Log

A.2 Part A/
Interim Status

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
111 West Jackson Blvd.
CHICAGO, ILLINOIS 60604

MAY 25 1982

REPLY TO ATTENTION OF:
RCRA ACTIVITIES

C.J. Worrel, Supervisor of Safety
& Security
Ethyl Corporation R&D Laboratories
1600 West Eight Mile Road
Ferndale, Michigan 48220

RE: Interim Status Acknowledgement USEPA ID No. MID041803123
FACILITY NAME: Ethyl Corporation R&D Laboratories

Dear Mr. Worrel:

This is to acknowledge that the U.S. Environmental Protection Agency (USEPA) has completed processing your Part A Hazardous Waste Permit Application. It is the opinion of this office that the information submitted is complete and that you, as an owner or operator of a hazardous waste management facility, have met the requirements of Section 3005(e) of the Resource Conservation and Recovery Act (RCRA) for Interim Status. However, should USEPA obtain information which indicates that your application was incomplete or inaccurate, you may be requested to provide further documentation of your claim for Interim Status. Our opinion will be reevaluated on the basis of this information.

As an owner or operator of a hazardous waste management facility, you are required to comply with the interim status standards as prescribed in 40 CFR Parts 122 and 265, or with State rules and regulations in those States which have been authorized under Section 3006 of RCRA. In addition, you are reminded that operating under interim status does not relieve you from the need to comply with all applicable State and local requirements.

The printout enclosed with this letter identifies the limit(s) of the process design capacities your facility may use during the interim status period. This information was obtained from your Part A Permit application. If you wish to handle new wastes, to change processes, to increase the design capacity of existing processes, or to change ownership or operational control of the facility, you may do so only as provided in 40 CFR Sections 122.22 and 122.23.

As stated in the first paragraph of this letter, you have met the requirements of 40 CFR Part 122.23; your facility may operate under interim status until such time as a permit is issued or denied. This will be preceded by a request from this office or the State (if authorized) for Part B of your application. Please contact Arthur Kawatachi of my staff at (312) 886-7449, if you have any questions concerning this letter or the enclosure.

Sincerely yours,

Karl J. Klepitsch, Jr., Chief
Waste Management Branch

OK RSB 5-24-82

Enclosure
cc: Robert Herzog, Executive Vice President

FACILITY NAME | EPA ID NUMBER

ETHYL CORPORATION | MID041803123

FACILITY OPERATOR

ETHYL CORP

FACILITY OWNER

ETHYL CORP

FACILITY LOCATION

1600 W EIGHT MILE RD
FERNDALE MI 48220

PROCESS CODE	DESIGN CAPACITY	UNIT OF MEASURE
S01	5000.00000	G

OK

KEY

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE
STORAGE:		
CONTAINER	S01	G OR L
TANK	S02	G OR L
WASTE PILE	S03	Y OR C
SURFACE IMPOUNDMENT	S04	G OR L
DISPOSAL:		
INJECTION WELL	D79	G,L,U, OR V
LANDFILL	D80	A OR F
LAND APPLICATION	D81	B OR Q
OCEAN DISPOSAL	D82	U OR V
SURFACE IMPOUNDMENT	D83	G OR L
TREATMENT:		
TANK	T01	U OR V
SURFACE IMPOUNDMENT	T02	U OR V
INCINERATOR	T03	D,W,E, OR H
OTHER	T04	J,R,N,S,U,V

UNIT OF MEASURE

- GALLONS
- LITERS
- CUBIC YARDS
- CUBIC METERS
- GALLONS PER DAY
- LITERS PER DAY
- TONS PER HOUR
- METRIC TONS\HOUR
- GALLONS\HOUR
- LITERS\HOUR
- ACRE-FEET
- HECTARE-METER
- ACRES
- HECTARES
- POUNDS\HOUR
- KILOGRAMS\HOUR
- TONS PER DAY
- METRIC TONS\DAY

Closure BX 2614

Please print or type with ELITE type *(12 characters per inch)* in the unshaded areas only

Form Approved. OMB No. 2050-0028. Expires 9-30-88. GSA No. 0246-EPA-OT

United States Environmental Protection Agency
Washington, DC 20460

EPA Notification of Hazardous Waste Activity

8733

Please refer to the *Instructions for Filing Notification* before completing this form. The information requested here is required by law *(Section 3010 of the Resource Conservation and Recovery Act).*

RECEIVED
JUL 20 1990
U. S. EPA, REGION V
SWB RMS

For Official Use Only

Comments: S

Installation's EPA ID Number	Approved	Date Received (yr. mo. day)
C F MIDO41803123 T/A C 1		

I. Name of Installation

CMI TECH CENTER INC

II. Installation Mailing Address

Street or P.O. Box (C 3): 1600 WEST EIGHT MILE ROAD

City or Town	State	ZIP Code
C 4 FERNDALE	MI	48220

III. Location of Installation

Street or Route Number (C 5): 1600 WEST EIGHT MILE ROAD

City or Town	State	ZIP Code
C 6 FERNDALE	MI	48220

IV. Installation Contact

Name and Title *(last, first, and job title)*	Phone Number *(area code and number)*
C 2 READON WILLIAM MGR	3133999600

V. Ownership

A. Name of Installation's Legal Owner	B. Type of Ownership *(enter code)*
C R T. C. REALITY INC.	P

VI. Type of Regulated Waste Activity *(Mark 'X' in the appropriate boxes. Refer to instructions.)*

A. Hazardous Waste Activity

- [X] 1a. Generator
- [ ] 1b. Less than 1,000 kg/mo.
- [ ] 2. Transporter
- [ ] 3. Treater/Storer/Disposer
- [ ] 4. Underground Injection
- [ ] 5. Market or Burn Hazardous Waste Fuel *(enter 'X' and mark appropriate boxes below)*
  - [ ] a. Generator Marketing to Burner
  - [ ] b. Other Marketer
  - [ ] c. Burner

B. Used Oil Fuel Activities

- [ ] 6. Off-Specification Used Oil Fuel *(enter 'X' and mark appropriate boxes below)*
  - [ ] a. Generator Marketing to Burner
  - [ ] b. Other Marketer
  - [ ] c. Burner
- [ ] 7. Specification Used Oil Fuel Marketer *(or On site Burner)* Who First Claims the Oil Meets the Specification

VII. Waste Fuel Burning: Type of Combustion Device *(enter 'X' in all appropriate boxes to indicate type of combustion device(s) in which hazardous waste fuel or off-specification used oil fuel is burned. See instructions for definitions of combustion devices.)*

- [ ] A. Utility Boiler
- [ ] B. Industrial Boiler
- [ ] C. Industrial Furnace

VIII. Mode of Transportation *(transporters only — enter 'X' in the appropriate box(es)*

- [ ] A. Air
- [ ] B. Rail
- [X] C. Highway
- [ ] D. Water
- [ ] E. Other *(specify)*

IX. First or Subsequent Notification

Mark 'X' in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your installation's EPA ID Number in the space provided below.

- [X] A. First Notification
- [ ] B. Subsequent Notification *(complete item C)*

C. Installation's EPA ID Number:

ID — For Official Use Only														
C													T/A	C
W														1

X. Description of Hazardous Wastes *(continued from front)*

A. Hazardous Wastes from Nonspecific Sources. Enter the four-digit number from 40 *CFR* Part 261.31 for each listed hazardous waste from nonspecific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
7	8	9	10	11	12

B. Hazardous Wastes from Specific Sources. Enter the four-digit number from 40 *CFR* Part 261.32 for each listed hazardous waste from specific sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30

C. Commercial Chemical Product Hazardous Wastes. Enter the four-digit number from 40 *CFR* Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
37	38	39	40	41	42
43	44	45	46	47	48

D. Listed Infectious Wastes. Enter the four-digit number from 40 *CFR* Part 261.34 for each hazardous waste from hospitals, veterinary hospitals, or medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. Characteristics of Nonlisted Hazardous Wastes. Mark 'X' in the boxes corresponding to the characteristics of nonlisted hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 — 261.24)*

☐ 1. Ignitable *(D001)* ☐ 2. Corrosive *(D002)* ☐ 3. Reactive *(D003)* ☒ 4. Toxic *(D000)*

XI. Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature	Name and Official Title *(type or print)*	Date Signed
X William K. Reardon	X William K. Reardon Purchasing Coordinator	X 7/16/90

Part A

EPA

ACKNOWLEDGEMENT OF NOTIFICATION OF HAZARDOUS WASTE ACTIVITY
(VERIFICATION)

This is to acknowledge that you have filed a Notification of Hazardous Waste Activity for the installation located at the address shown in the box below to comply with Section 3010 of the Resource Conservation and Recovery Act *(RCRA)*. Your EPA Identification Number for that installation appears in the box below. The EPA Identification Number must be included on all shipping manifests for transporting hazardous wastes; on all Annual Reports that generators of hazardous waste, and owners and operators of hazardous waste treatment, storage and disposal facilities must file with EPA; on all applications for a Federal Hazardous Waste Permit; and other hazardous waste management reports and documents required under Subtitle C of RCRA.

EPA I.D. NUMBER → MID041803123 REACKNOWLEDGEMENT

ETHYL CORPORATION
1600 W EIGHT MILE RD
FERNDALE MI 48220

INSTALLATION ADDRESS →

1600 W EIGHT MILE RD
FERNDALE MI 48220

EPA Form 8700-12B (4-80)

10/03/81

Please print or type with ELITE type (12 characters/inch) in the unshaded areas only.

Form Approved OMB No. 158-S79016
GSA No. 0246-EPA-OT

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

INSTRUCTIONS: If you received a preprinted label, affix it in the space at left. If any of the information on the label is incorrect, draw a line through it and supply the correct information in the appropriate section below. If the label is complete and correct, leave Items I, II, and III below blank. If you did not receive a preprinted label, complete all items. "Installation" means a single site where hazardous waste is generated, treated, stored and/or disposed of, or a transporter's principal place of business. Please refer to the INSTRUCTIONS FOR FILING NOTIFICATION before completing this form. The information requested herein is required by law (Section 3010 of the Resource Conservation and Recovery Act).

I. NAME OF INSTALLATION: MID041803123

II. INSTALLATION MAILING ADDRESS:
ETHYL CORPORATION
1600 W EIGHT MILE RD
FERNDALE, MI 48220

III. LOCATION OF INSTALLATION:
1600 W EIGHT MILE RD
FERNDALE, MI 48220

000084 AUG -8 80

OUT OF BUSINESS CLOSED FACILITY

FOR OFFICIAL USE ONLY

COMMENTS:

INSTALLATION'S EPA I.D. NUMBER	APPROVED	DATE RECEIVED (yr., mo., & day)
MID041803123 T/A 1	A	800808

I. NAME OF INSTALLATION

ETHYL CORPORATION

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX: 1600 W EIGHT MILE RD

CITY OR TOWN	ST.	ZIP CODE
FERNDALE	MI	48220

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER: SAME

CITY OR TOWN	ST.	ZIP CODE
SAME		

IV. INSTALLATION CONTACT

NAME AND TITLE (last, first, & job title)	PHONE NO. (area code & no.)
Huffman A. E. Dir. Admin & Servic.	313-399-9600

V. OWNERSHIP

A. NAME OF INSTALLATION'S LEGAL OWNER: Ethyl Corporation

B. TYPE OF OWNERSHIP (enter the appropriate letter into box)
F = FEDERAL
M = NON-FEDERAL
M

VI. TYPE OF HAZARDOUS WASTE ACTIVITY (enter "X" in the appropriate box(es))

- [X] A. GENERATION
- [ ] B. TRANSPORTATION (complete item VII)
- [X] C. TREAT/STORE/DISPOSE
- [ ] D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION (transporters only – enter "X" in the appropriate box(es))

- [ ] A. AIR
- [ ] B. RAIL
- [ ] C. HIGHWAY
- [ ] D. WATER
- [ ] E. OTHER (specify):

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your Installation's EPA I.D. Number in the space provided below.

- [X] A. FIRST NOTIFICATION
- [ ] B. SUBSEQUENT NOTIFICATION (complete item C)

C. INSTALLATION'S EPA I.D. NO.: MID041803123

IX. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

EPA Form 8700-12 (6-80)

CONTINUE ON REVERSE

AUG 08 1980

DETACH A

I.D. – FOR OFFICIAL USE ONLY

S													T/A	C
W	M	I	0	0	4	1	8	0	3	1	2	3	2	1
1	2											13	14	15

IX. DESCRIPTION OF HAZARDOUS WASTES *(continued from front)*

A. HAZARDOUS WASTES FROM NON–SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.31 for each listed hazardous waste from non–specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
F002	F004	F005			
7	8	9	10	11	12

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four–digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
37	38	39	40	41	42
43	44	45	46	47	48

D. LISTED INFECTIOUS WASTES. Enter the four–digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. CHARACTERISTICS OF NON–LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non–listed hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 – 261.24.)*

[X] 1. IGNITABLE (D001)	[X] 2. CORROSIVE (D002)	[X] 3. REACTIVE (D003)	[X] 4. TOXIC (D000)

X. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SIGNATURE	NAME & OFFICIAL TITLE *(type or print)*	DATE SIGNED
A E Huffman	A. E. Huffman, Dir. Administration & Services	8/6/80

DETACH

DETACH

Please print or type in the unshaded areas only (fill–in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

47

I. EPA I.D. NUMBER

F MID041803123 D

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill–in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill–in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold–faced terms.

SPECIFIC QUESTIONS	YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)		X		B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge to waters of the U.S.**? (FORM 2B)		X	
C. Is this a facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)		X		D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)	X		X	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X		J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP Ethyl Corporation R&D Laboratories

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
2 C. J. Worrel Supv. Safety & Security	313 399 9600

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 1600 West Eight Mile Road

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 Ferndale	MI	48220

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 1600 West Eight Mile Road

B. COUNTY NAME

Oakland

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 Ferndale	MI	48220	

EPA Form 3510-1 (6-80)

NOV 14 1980

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
2869 (specify) Industrial Organic Chemicals, R&D	2819 (specify) Industrial Inorganic Chemicals, R&D

C. THIRD	D. FOURTH
(specify)	(specify)

VIII. OPERATOR INFORMATION

A. NAME: Ethyl Corporation

B. Is the name listed in Item VIII-A also the owner? [X] YES [ ] NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL; S = STATE; P = PRIVATE; M = PUBLIC (other than federal or state); O = OTHER (specify)
P (specify)

D. PHONE (area code & no.): A 804 788 5000

E. STREET OR P.O. BOX: PO Box 2189

F. CITY OR TOWN: Richmond

G. STATE: VA

H. ZIP CODE: 23217

IX. INDIAN LAND

Is the facility located on Indian lands? [ ] YES [X] NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	D. PSD (Air Emissions from Proposed Sources)
9 N	9 P
B. UIC (Underground Injection of Fluids)	**E. OTHER (specify)**
9 U	9 (specify) Discharge Permit, Detroit Water & Sewage Dept.
C. RCRA (Hazardous Wastes)	**E. OTHER (specify)**
9 R	9 (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements. F9A/54

XII. NATURE OF BUSINESS (provide a brief description)

Research & Development

Automotive Research on fuel and lubricant additives and emissions controls - engine dynamometer, chassis dynamometer and road testing.

Chemical Research on fuel and lubricant additives for automotive use; research and development on industrial chemicals. F9A/51

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
Robert Herzog Executive Vice President	Robert Herzog	11/14/80

COMMENTS FOR OFFICIAL USE ONLY

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

S: F M I D 0 4 1 8 0 3 1 2 3 3 T/A: 3 C: 1

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

C: 8

FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

YR.	MO.	DAY
3 6	1 2	0 9

[ ] 2. NEW FACILITY *(Complete item below.)*

FOR NEW FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR.	MO.	DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES — CODES AND DESIGN CAPACITIES

A. PROCESS CODE — Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code*(s)* in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C).*

B. PROCESS DESIGN CAPACITY — For each code entered in column A enter the capacity of the process.

1. AMOUNT — Enter the amount.
2. UNIT OF MEASURE — For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below):* A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

S: C DUP T/A: 3 C: 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	400	G	
X-2	T 0 3	20	E	
1	S 0 1	5000	G	
2				
3				
4				

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
5				
6				
7				
8				
9				
10				

Continued from the front.

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. **EPA HAZARDOUS WASTE NUMBER** — Enter the four—digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four—digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. **ESTIMATED ANNUAL QUANTITY** — For each **listed waste** entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each **characteristic** or **toxic contaminant** entered in column A estimate the total annual quantity of all the non—listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. **UNIT OF MEASURE** — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. **PROCESSES**

1. PROCESS CODES:
   For listed hazardous waste: For each **listed** hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non—listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate **all** the processes that will be used to store, treat, and/or dispose of all the non—listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non—listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

Continued from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1): W M I D 0 4 1 8 0 3 1 2 3 3 1

FOR OFFICIAL USE ONLY: W DUP 3 2 DUP

V. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	F 0 0 2	~~800~~ 640000	~~K~~ P	S 0 1	Shipped off site for disposal
2	F 0 0 4	~~800~~ 5600000	~~K~~ P	S 0 1	" " " " "
3	F 0 0 5	~~3000~~ 21000000	~~K~~ P	S 0 1	" " " " "
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

(enter "A", "B", "C", etc. behind the "3" to identify photocopied pages)

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. (enter from page 1)

S												T/A	C
F	M	I	D	0	4	1	8	0	3	1	2	3	3 6
1	2										13	14	15

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).* P6A/5S

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground–level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).* P6A/5C

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)			LONGITUDE (degrees, minutes, & seconds)		
42	26	47	83	08	505
65 66	67 68	69 - 71	72 - 74	75 76	77 - 79

VIII. FACILITY OWNER

[X] A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)
C E	
15 16 - 55	56 - 58 / 59 - 61 / 62 - 65

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
C F	C G		
15 16 - 45	15 16 - 40	41 42	47 - 51

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
Robert Herzog Executive Vice President	Robert Herzog	11/14/80

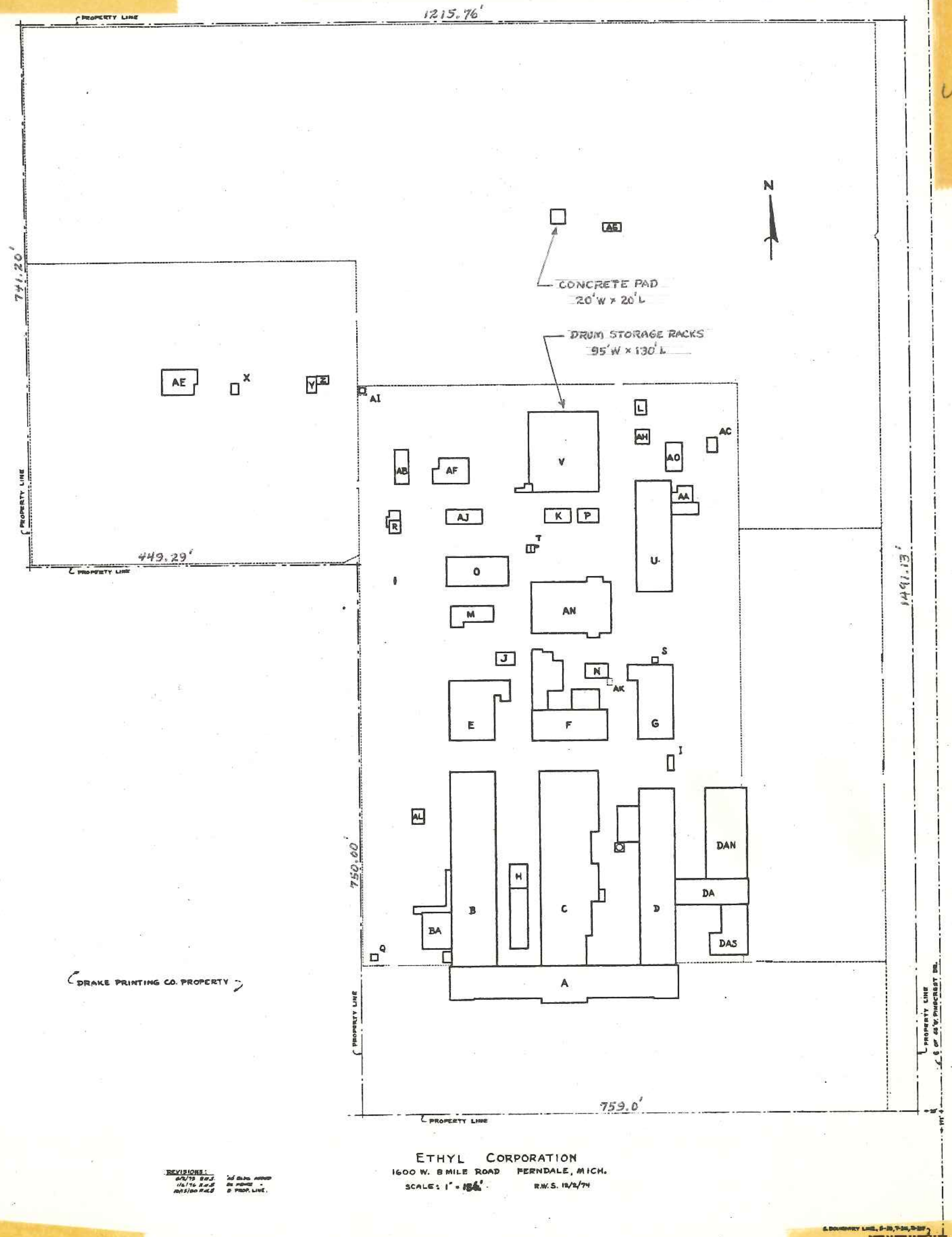
X. OPERATOR CERTIFICATION

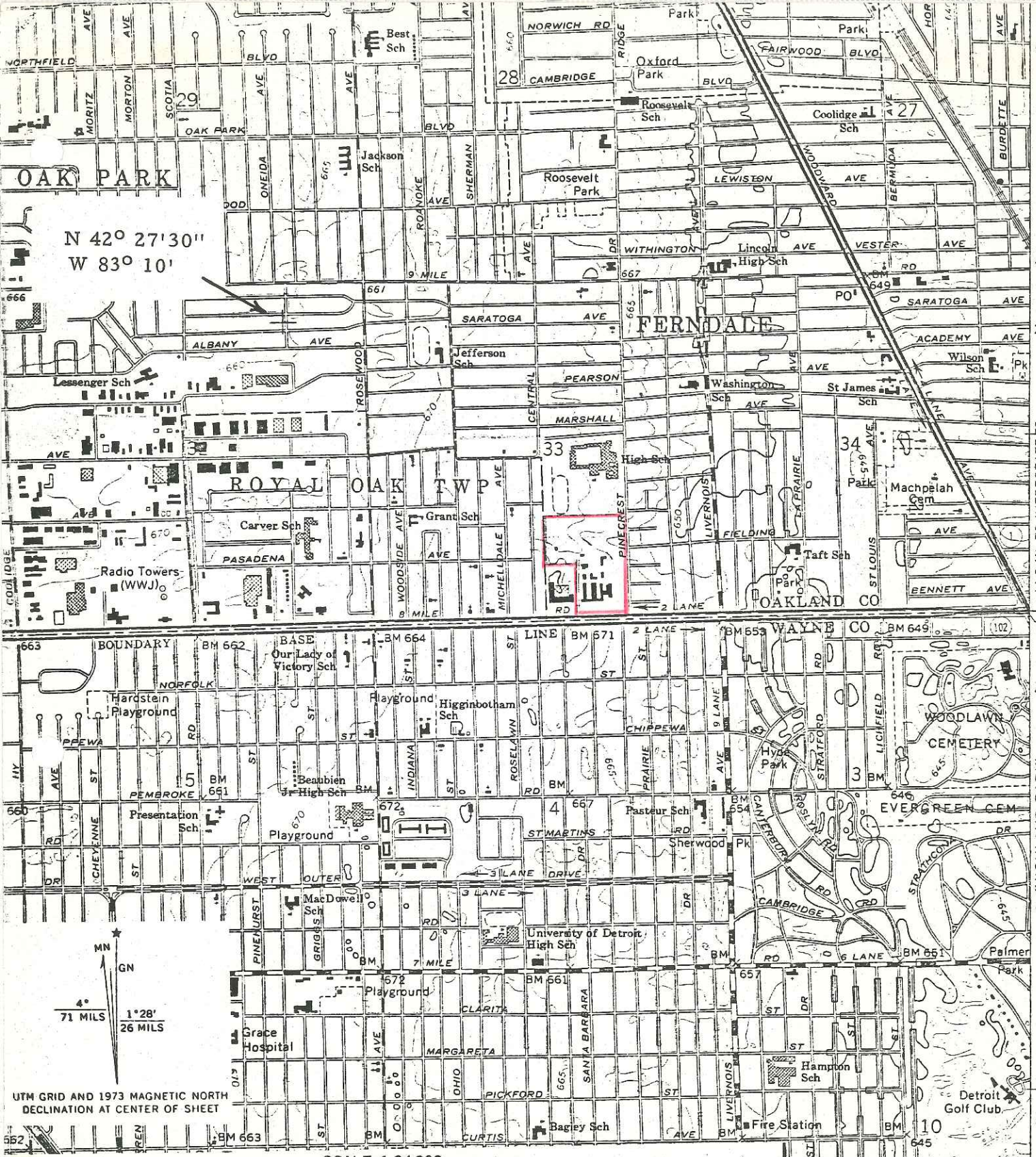
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED

Continued from page 4.

V. FACILITY DRAWING *(see page 4)*





SCALE 1:24 000

1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 5 FEET
DATUM IS MEAN SEA LEVEL

COPIED FROM:
ROYAL OAK, MICH.
N4222.5—W8307.5/7.5

1968
PHOTOREVISED 1973
AMS 4368 I NW- SERIES V862

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092

ETHYL CORPORATION
RESEARCH AND DEVELOPMENT DEPARTMENT · RESEARCH LABORATORIES
1600 WEST EIGHT MILE ROAD · FERNDALE, MICHIGAN 48220 · (313) 399-9600

February 22, 1984

RCRA Activities
EPA, Region V
P. O. Box A-3587
Chicago, IL 60690-3587

Attn: Biennial Report

Dear Sir:

Enclosed are the completed "Hazardous Waste Treatment, Storage and Disposal Facility Report for 1983" and the "Hazardous Waste Generator Report for 1983." Also enclosed are copies of State of Michigan Waste Disposal Manifests, Waste Characterization Reports and a tabulation of the contents of each container.

We have closed this location as a generator and storage facility of hazardous waste. Our approved closure plan has been completed and we have had the inspection and certification as required by 40 CFR 265.115. In closing the facility we cleaned out the chemistry laboratories and stockroom which accounts for the quantity of material shipped.

If you have any questions, please call W. J. Brown, (313) 399-9600.

Yours truly,

W J Brown

W. J. Brown

WJB/jtd

cc: (without enclosures)

Mr. W. E. Adams
Dr. K. A. Keblys (with reports only)
Mr. R. S. Silver

Do not make entries in shaded areas

OMB#: 2050-0024 Expires: 12-31-86

ENVIRONMENTAL PROTECTION AGENCY

GENERATOR BIENNIAL HAZARDOUS WASTE REPORT FOR 1983

This report is for the calendar year ending December 31, 1983.
Read All Instructions Carefully Before Making Any Entries on Form

I. NON-REGULATED STATUS

Complete this section only if you did not generate regulated quantities of hazardous waste at any time during the 1983 calendar year. Circle the one code at right that best describes your status during the entire year (see instructions for explanation of codes).

1 Non-handler
2 Small Quantity Generator
4 Exempt
5 Beneficial Use
9 Closed

Please print/type with elite type (12 characters per inch)

II. GENERATOR'S EPA I.D. NUMBER

T/A C

1	2											13	14	15
F	M	I	D	0	4	1	8	0	3	1	2	3		1

9,15D

This Installation's Non-Regulated Status is Expected to Apply:

☐ For 1983 Only ☐ Permanently

☐ Other _____

C303 ENTRY (OFFICIAL USE ONLY): ☐

III. NAME OF INSTALLATION

30 E T H Y L C O R P O R A T I O N R & D L A B O R A T O R I E S 69

IV. INSTALLATION MAILING ADDRESS

15 16 3 1 6 0 0 W E S T E I G H T M I L E R O A D 45

Street or P.O. Box

15 16 4 F E R N D A L E 41 42 M I 47 4 8 2 2 0 51

City or Town State Zip Code

V. LOCATION OF INSTALLATION (if different than section IV above)

15 16 5 45

Street or Route number

15 16 6 41 42 State 47 Zip Code 51

City or Town

VI. INSTALLATION CONTACT

15 16 2 B R O W N W I L L I A M 45

Name (last and first)

46 3 1 3 — 3 9 9 — 9 6 0 0 55

Phone No. (area code & no.)

VII. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

William J. Brown	Supv. Safety	William J Brown	2/22/84
Print/Type Name	Title	Signature of Authorized Representative	Date Signed

EPA Form 8700-13A(5-80) (Revised 11-83)

Tear out here

Do not make entries in shaded areas

ENVIRONMENTAL PROTECTION AGENCY

Generator Biennial Hazardous Waste Report for 1983 (cont.)

This report is for the calendar year ending December 31, 1983.

Date rec'd: Rec'd by:

VIII. GENERATOR'S EPA I.D. NO.

G M I D 0 4 1 8 0 3 1 2 3 T/A C 1 1

IX. FACILITY NAME (specify facility to which all wastes on this page were shipped)

Nelson Industrial Services, Inc.

X. FACILITY'S EPA I.D. NO.

F M I D 0 9 8 0 1 1 9 9 2

XI. FACILITY ADDRESS

12345 Schaefer
Detroit, MI 48227

XII. TRANSPORTATION SERVICES USED

Nelson Industrial Services, Inc. MID098011992

XIII. WASTE IDENTIFICATION

Sequence #	Line #	A. Description of Waste	B. DOT Hazard code	C. EPA Hazardous Waste No. (see instructions)	D. Amount of Waste	E. Unit of Measure
	1	Glass Containers Sulfuric Acid	15	D002	1600	P
	2	Glass Containers 65% Sulfuric Acid	15	D002	94	P
	3	Glass Containers Perchloric Acid	15	D002	42	P
	4	Glass Containers Acetic Anhydride	15	D002	50	P
	5	Glass Containers 90% Nitric Acid	15	D002	7	P
	6	P. E. Container Polyphosphoric Acid	15	D002	250	P
	7					
	8					
	9					
	10					
	11					
	12					

XIV. COMMENTS (enter information by section number—see instructions)

Items 1-6 from attached manifest MI 0100114

Tear out here

Do not make entries in shaded areas

ENVIRONMENTAL PROTECTION AGENCY

Generator Biennial Hazardous Waste Report for 1983 (cont.)

This report is for the calendar year ending December 31, 1983.

Date rec'd: _____ Rec'd by: _____

VIII. GENERATOR'S EPA I.D. NO.

G M I D 0 4 1 1 8 0 3 1 2 3 T/A C 1 1

IX. FACILITY NAME (specify facility to which all wastes on this page were shipped)

SCA Chemical Services, Inc.

X. FACILITY'S EPA I.D. NO.

F I L D 0 0 0 6 7 2 1 2 1

XI. FACILITY ADDRESS

11700 S. Stony Island Ave.
Chicago, IL 66017

XII. TRANSPORTATION SERVICES USED

Great Lakes Environmental Services
22077 Mound Road
Warren, MI 48090 MID087478574

XIII. WASTE IDENTIFICATION

Sequence #	Line #	A. Description of Waste	B. DOT Hazard code	C. EPA Hazardous Waste No. (see instructions)	D. Amount of Waste	E. Unit of Measure
	1	Lab-Packs of Organic Waste	15	D000	3937	P
	2	Flammable and Toxic Organic Waste	15	D001	1155	G
	3	Halogenated Organic Waste	15	D002	1045	G
	4	Lab-Packs of Organic Waste	15	D000	4894	P
	5	Flammable and Toxic Organic Waste	15	D001	4400	G
	6	Flammable and Toxic Organic Waste	15	D001	1100	G
	7	Halogenated Organic Waste	15	D001	330	G
	8	Lab-Packs of Organic Waste		D001	496	P
	9					
	10					
	11					
	12					

XIV. COMMENTS (enter information by section number—see instructions)

Lab-Pack and container contents are shown on the attached sheets.

Items 1-3 from attached manifest MI 0035779
Item 4 from attached manifest MI 0100115
Item 5 from attached manifest MI 0035767
Items 6-8 from attached manifest MI 0100117

Item	Lb/gal Density
2	8.0
3	8.0
5	8.0
6	8.0
7	8.0

Tear out here

Do not make entries in shaded areas

ENVIRONMENTAL PROTECTION AGENCY

Generator Biennial Hazardous Waste Report for 1983 (cont.)

This report is for the calendar year ending December 31, 1983.

Date rec'd: _____ Rec'd by: _____

VIII. GENERATOR'S EPA I.D. NO.

T/A C

G|M|I|D|0|4|1|8|0|3|1|2|3| |1|

1 2 13 14 15

IX. FACILITY NAME (specify facility to which all wastes on this page were shipped)

SCA Chemical Services, Inc.

X. FACILITY'S EPA I.D. NO.

F|N|Y|D|0|4|9|8|3|6|6|7|9|

16 28

XI. FACILITY ADDRESS

1135 Balmer Road
Model City, New York 14107

XII. TRANSPORTATION SERVICES USED

Great Lakes Environmental Services
22077 Mound Road
Warren, MI 48090 MID087478574

XIII. WASTE IDENTIFICATION

Sequence #	Line #	A. Description of Waste	B. DOT Hazard code	C. EPA Hazardous Waste No. (see instructions)	D. Amount of Waste	E. Unit of Measure
	1	Lab-Packs of Inorganic and Brominated Organic Chemicals	15	D000	8620	P
	2	Mixed Organic Liquid Waste Containing P&Cl	15	D001	110	G
	3	Phosphorous Oxychloride	15	D003	55	G
	4	Phosphorous Trichloride	15	D002	55	G
	5	Lead Halide/Oxide Deposits	15	D008	55	G
	6	Copper Sulfide Ore Concentrate	15	D003	1210	G
	7					
	8					
	9					
	10					
	11					
	12					

Tear out here

XIV. COMMENTS (enter information by section number—see instructions)

Lab-Pack and container contents are shown on the attached sheets.

Items 1-6 from attached manifest MI 0100118

Item	Lb/gal Density
2	9.2
3	11.7
4	11.7
5	20.8
6	23.3

Do not make entries in shaded areas

OMB#: 2050-0024 Expires: 12-31-86

ENVIRONMENTAL PROTECTION AGENCY

FACILITY BIENNIAL HAZARDOUS WASTE REPORT FOR 1983

This report is for the calendar year ending December 31, 1983.
Read All Instructions Carefully Before Making Any Entries on Form

I. NON-REGULATED STATUS

See instructions before completing this section.

This facility did not treat, store, or dispose of regulated quantities of hazardous waste at any time during 1983. . . . . ☐

Explain your non-regulated status in the space below.

Please print/type with elite type (12 characters per inch)

II. FACILITY EPA I.D. NUMBER

T/A C

F M I D 0 4 1 8 0 3 1 2 3 1

1 2 13 14 15

This Facility's Non-Regulated Status is Expected to Apply:

☐ For 1983 Only ☐ Permanently

☐ Other (explain in comment section)

C303 ENTRY (OFFICIAL USE ONLY): ☐

III. NAME OF FACILITY

ETHYL CORPORATION R&D LABORATORIES

30 69

IV. FACILITY MAILING ADDRESS

3 1600 WEST EIGHT MILE ROAD

15 16 45

Street or P.O. Box

4 FERNDALE MI 48220

15 16 41 42 47 51

City or Town State Zip Code

V. LOCATION OF FACILITY (if different than section IV above)

5

15 16 45

Street or Route number

6

15 16 41 42 47 51

City or Town State Zip Code

VI. FACILITY CONTACT

2 BROWN WILLIAM

15 16 45

Name (last and first)

313-399-9600

46 55

Phone No. (area code & no.)

VII. COST ESTIMATES FOR FACILITIES

$ 9,900

16 19 22

A. Cost Estimate for Facility Closure

$, ,

25 28 31

B. Cost Estimate for Post Closure Monitoring and Maintenance (disposal facilities only)

VIII. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

William J. Brown	Supv. Safety	William J Brown	2/22/84
Print/Type Name	Title	Signature of Authorized Representative	Date Signed

EPA Form 8700-13B(5-80) (Revised 11-83)

Tear out here

Do not make entries in shaded areas

ENVIRONMENTAL PROTECTION AGENCY

Facility Biennial Hazardous Waste Report for 1983 (cont.)

This report is for the calendar year ending December 31, 1983.

Date rec'd: _____ Rec'd by: _____

IX. FACILITY'S EPA I.D. NO. T/A C

F M I D 0 4 1 8 0 3 1 2 3 1
(1 2 ... 13 14 15)

X. GENERATOR'S EPA I.D. NO.

G M I D 0 4 1 8 0 3 1 2 3
(16 ... 28)

XI. GENERATOR NAME (specify generator from whom all wastes on this page were received)

ON-SITE ☐

XII. GENERATOR ADDRESS

XIII. TOTAL WASTE IN STORAGE ON DECEMBER 31, 1983 (complete this section only once for your facility)

	AMOUNT OF WASTE	UOM
S01	0	
S02	0	
S03	0	
S04	0	
S05		0

XIV. WASTE IDENTIFICATION

Sequence #	Line #	A. Description of Waste	B. EPA Hazardous Waste No. (see instructions)	C. Handling Method	D. Amount of Waste	E. Unit of Measure
29 32	1	Glass Containers Sulfuric Acid	D002 (33 36) (37 40) (41 44) (45 48)	S01 (49 51)	1600 (52 60)	P (61)
	2	Glass Containers 65% Sulfuric Acid	D002	S01	94	P
	3	Glass Containers Perchloric Acid	D002	S01	42	P
	4	Glass Containers Acetic Anhydride	D002	S01	50	P
	5	Glass Containers 90% Nitric Acid	D002	S01	7	P
	6	P.E. Container Polyphosphoric Acid	D002	S01	250	P
	7	Lab-Packs of Organic Waste	D000	S01	3937	P
	8	Flammable and Toxic Organic Waste	D001	S01	1155	G
	9	Halogenated Organic Waste	D002	S01	1045	G
	10	Lab-Packs of Organic Waste	D001	S01	4894	P
	11	Flammable and Toxic Organic Waste	D001	S01	4400	G
	12	Flammable and Toxic Organic Waste	D001	S01	1100	G

XV. COMMENTS (enter information by section number—see instructions)

Lab-Pack and container contents are shown on attached sheets.
Items 1-6 from attached manifest MI 0100114
Items 7-9 from attached manifest MI 0035779
Item 10 from attached manifest MI 0100115
Item 11 from attached manifest MI 0035767
Item 12 from attached manifest MI 0100117

Item	Lb/gal Density
8	8.0
9	8.0
11	8.0
12	8.0

Tear out here

Do not make entries in shaded areas

ENVIRONMENTAL PROTECTION AGENCY

Facility Biennial Hazardous Waste Report for 1983 (cont.)

This report is for the calendar year ending December 31, 1983.

Date rec'd: _____ Rec'd by: _____

IX. FACILITY'S EPA I.D. NO.

F M I D 0 4 1 8 0 3 1 2 3 T/A C 1

(1 2 ... 13 14 15)

X. GENERATOR'S EPA I.D. NO.

G M I D 0 4 1 8 0 3 1 2 3

(16 ... 28)

XI. GENERATOR NAME (specify generator from whom all wastes on this page were received)

ON-SITE X

XII. GENERATOR ADDRESS

XIII. TOTAL WASTE IN STORAGE ON DECEMBER 31, 1983 (complete this section only once for your facility)

S01 AMOUNT OF WASTE UOM S02 AMOUNT OF WASTE UOM S03 AMOUNT OF WASTE UOM

S04 AMOUNT OF WASTE UOM S05 AMOUNT OF WASTE UOM

XIV. WASTE IDENTIFICATION

Sequence #	Line #	A. Description of Waste	B. EPA Hazardous Waste No. (see instructions)	C. Handling Method	D. Amount of Waste	E. Unit of Measure
	1	Halogenated Organic Waste	D001	S01	330	G
	2	Lab-Packs of Organic Waste	D001	S01	496	P
	3	Lab-Packs of Inorganic and Brominated Organic Chemicals	D000	S01	862	P
	4	Mixed Organic Liquid Waste Containing P&Cl	D001	S01	110	G
	5	Phosphorous Oxychloride	D003	S01	55	G
	6	Phosphorous Trichloride	D002	S01	55	G
	7	Lead Halide/Oxide Deposits	D008	S01	55	G
	8	Copper Sulfide Ore Concentrate	D003	S01	120	G
	9					
	10					
	11					
	12					

XV. COMMENTS (enter information by section number—see instructions)

Lab-Pack and container contents are shown on attached sheets
Items 1-2 from attached manifest MI 0100117
Items 3-8 from attached manifest MI 0100118

Item	Lb/gal Density
1	8.0
4	9.2
5	11.7
6	11.7
7	20.8
8	23.3

Tear out here

A.4 Closure/Post-Closure

ENVIRONMENTAL PROTECTION AGENCY

TELEPHONE MEMORANDUM

WITH Bill Brown DATE 3/19/84

REPRESENTING Ethyl Corporation TIME 12:45

PERMIT NO. MID 041803123 PHONE 313-399-5600

EPA STAFF David Homer

SUBJECT Closure letter dated March 16, 1984

NOTES & SUMMARY: FOLLOW-UP DATE

He stated that the facility was not going to be a generator any longer and to delete them from the system. I told him I would check the file to see if there was enough info to back-up his claim and then have generator status deleted. If not I would get back to him

Signature David H Homer

5HW-13

OCT 1 1 1983

Mr. C. J. Worrel
Supervisor of Safety and Security
Ethyl Corporation
Research and Development Department
1600 West Eight Mile Road
Ferndale, Michigan 48220

Re: Closure Plan
EPA ID No.: MID 041803123

Dear Mr. Worrel:

On June 3, 1983, you submitted formal application of closure of your hazardous waste storage facility. The closure plan described the disposal of waste from the storage area, decontamination of equipment and disposal of that rinsate. A 30-day public comment period of the plan ended September 23, 1983, and no comments were received.

The closure plan for your facility is hereby approved. Please submit the necessary certification after the approved closure has been completed (40 CFR 265.115 enclosed).

You may contact Dr. David Homer of my staff at (312) 886-3790, if you have any questions on this matter.

Sincerely,

Basil G. Constantelos, Director
Waste Management Division

Enclosure

cc: Alan Howard, MDNR

INITIALS / DATE	TYPIST	AUTHOR	STU #1 CHIEF	STU #2 CHIEF	STU #3 CHIEF	TPS CHIEF	WMB CHIEF	WM DIR
	ap 10/3/83	DH 10/4			10/4/83	10/14/83	KVK 10/5/83	10/6/83

5HW-13:DHOMER:ap:6-3790:10/3/83

OCT 1 1 1983

Closure Plan: Ethyl Corporation, Ferndale, Michigan
EPA ID No.: MID041803123

Karl J. Klepitsch, Jr., Chief
Waste Management Branch

B. G. Constantelos, Director
Waste Management Division

The subject facility proposed the closure of the hazardous waste storage facility at their Research and Development Laboratories. They will remove all wastes off-site for disposal, and decontaminate all equipment with the appropriate solvents. The rinsate will be sent off-site for disposal. Therefore, it is recommended the plan be approved with no conditions.

INITIALS / DATE	TYPIST	AUTHOR	STU #1 CHIEF	STU #2 CHIEF	STU #3 CHIEF	TPS CHIEF	WMB CHIEF	WMD DIRECTOR
	ap 10/3/83	DH 10/4			10/4/83	10/4/83	KJK 10/5/83	

5HW-13:DHOMER:ap:6-3790:10/3/83

— 01
District
Laura

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO ATTENTION OF:
5HW-13

MAR 16 1984

RECEIVED
MAR 27 1984
[illegible]

Mr. W. J. Brown, P.E.
Ethyl Corporation
Research and Development Department
1600 West Eight Mile Road
Ferndale, Michigan 48220

Re: Certification of Closure Plan
EPA I.D. No. MID041803123

Dear Mr. Brown:

Your February 14, 1984, letter informed this Agency that the approved closure plan for Ethyl Corporation Research and Development Laboratories' storage facilities has been executed, and that closure has been certified by Peter F. Atkins, P.E.. The facility will retain its identification number as a hazardous waste generator. Please be advised that you must ensure your waste is handled in accordance with the generator standards outlined in 40 CFR Part 262.

Please contact Dr. David Homer of my staff at (312) 886-6146, if you have any questions.

Sincerely,

Basil G. Constantelos, Director
Waste Management Division

cc: Alan Howard, MDNR

RECEIVED
MAR 20 1984
[illegible]

ETHYL CORPORATION
RESEARCH AND DEVELOPMENT DEPARTMENT · RESEARCH LABORATORIES
1600 WEST EIGHT MILE ROAD · FERNDALE, MICHIGAN 48220 · (313) 399-9600

February 14, 1984

Mr. Basil G. Constantelos, Director
Waste Management Division
U. S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, IL 60604

Attention: 5HW-13

MID OH1 803 123 G, TSD, PA

Dear Mr. Constantelos:

In conformity with 40 CFR 265.115 Ethyl Corporation certifies that the closure of its hazardous waste storage facility EPA ID No.: MID041803123 has been completed in accordance with the approved plan. All hazardous waste has been removed and an inspection by the Michigan Department of Natural Resources confirmed this. An independent registered professional engineer certified the facility has been closed in accordance with the specifications in the approved closure plan. His letter of certification, with seal, is enclosed.

Signed for Ethyl Corporation

W J Brown

W. J. Brown, P.E.
State of Michigan #18311

WJB/jtd
Enclosure

cc: (with enclosure)
Mr. W. E. Adams
Dr. K. A. Keblys
Mr. R. S. Silver

ENCOTEC

Verification of Closure

Introduction

The report serves to verify that the Ethyl Corporation Laboratories located at 1600 West Eight Mile Road, Ferndale, Michigan have been closed in accordance with the specifications in their approved closure plan. The Ethyl Corporation has an Interim Status Permit to store hazardous waste under the Resource Conservation and Recovery Act (RCRA), PL 94-580, October 21, 1976. License number MID 041803123. Federal regulations under RCRA, 40 CFR Part 265, Subpart G, Closure and Post Close, require certification by an independent registered professional engineer. The certification of closure is being supplied by Peter F. Atkins, Jr. P.E. (State of Michigan).

Summary

The Ethyl Corporation Ferndale Laboratoreis were inspected on February 8, 1984. The inspection included the following areas:

- Drum storage area
- Active Metals storage area
- Chemicals Research Laboratories
- Chemical Engineering Projects area
- Hazardous Chemicals storage area
- General Chemicals storage area

ENCOTEC

During the inspection all the above areas were thoroughly examined, all storage cupboards and lockers were opened, and all rooms and closets were entered. No chemicals or chemical wastes of any kind were found at this site.

Signed _____

Peter F. Atkins, Jr. P.E.
State of Michigan #20799

ETHYL CORPORATION
RESEARCH AND DEVELOPMENT DEPARTMENT · RESEARCH LABORATORIES
1600 WEST EIGHT MILE ROAD · FERNDALE, MICHIGAN 48220 · (313) 399-9600

June 3, 1983

U.S. Environmental Protection Agency
Region V
230 South Dearborn St.
Chicago, Illinois 60604 MID 041 803 123, PA, G, TSD, PAS1

Dear Sirs:

Enclosed is the Closure Plan for the Ethyl Corporation Research and Development Laboratories in Ferndale, Michigan. This is submitted in compliance with RCRA Rules, Part 265, Subpart G. This facility has been a generator of hazardous waste under USEPA ID No. MID 041803123 in compliance with interim status standards. It is expected that we will no longer generate hazardous waste after August 31, 1983. Final closure is anticipated to be December 31, 1983, when we would no longer store hazardous waste at this facility.

Please advise us of your considered action in this matter.

Very truly yours,

C. J. Worrel
Supervisor of Safety and Security

CJW/lcb

Enclos.

CLOSURE PLAN FOR FERNDALE LABORATORIES

Foreword: The Ethyl Ferndale laboratories has an Interim Status Permit as storers of hazardous waste under the Resource Conservation and Recovery Act (RCRA), Public Law 94-580--October 21, 1976. Our license number is MID 041803123. The purpose of this plan is to comply with Federal Regulations under RCRA, 40 CFR Part 265, Subpart G, Closure and Post-Closure.

Objective: To close the facility so as to minimize the need for further maintenance as a hazardous waste storage facility and to control or eliminate the need to protect human health and the environment from the effects of such use.

Policy: The provisions of this plan will be carried out upon closure of the facility.

Procedure:

(1) This facility will be closed by decision of the owners, the Ethyl Corporation, with headquarters at 330 South Fourth St., Richmond, Virginia 23217.

(2) Partial closure or unclosure of these facilities is not anticipated.

(3) The maximum inventory of waste in storage during the life of this facility is estimated at forty-five 55-gallon drums.

(4) To decontaminate the facility, wash all containers and equipment with appropriate solvents, drum washings and ship drums as hazardous waste. (Estimate five 55-gallon drums of washings as maximum, included as part of forty-five drums in (3) above.)

(5) It is anticipated that waste will no longer be accumulated within approximately 60 days prior to the final closure date.

(6) The waste inventory on hand will be shipped within approximately 30 days prior to final closure.

(7) When closure is impending, the Ethyl Corporation will submit this closure plan, at least 180 days prior to the expected date, to the Regional Administrator, U.S. Environmental Protection Agency, Region V, 230 South Dearborn St., Chicago, Illinois 60604.

(8) This plan will be kept at these laboratories to be used in the event the facility is closed. It may be amended whenever such amendment is needed and must be amended when changes in operation or facility use affect this closure plan.

NOTICE OF CANCELLATION

Hazardous Waste Liability Certificate of Liability Insurance

filed with

Name ENVIRONMENTAL PROTECTION AGENCY

Address ATTENTION MR THOMAS GOLZ

WASTE MANAGEMENT BRANCH

230 SOUTH DEARBORN STREET

CHICAGO IL 60604

This is to advise that policy # TREE-SLG-108T148-2-82

(Named Insured) ETHYL CORPORATION

(Mailing Address) 330 SOUTH FOURTH ST

RICHMOND VA 23219

(Facility Name) ETHYL RSD LABS

(Facility Address) 1600 WEST EIGHT MILE RD

FERNDALE MI 48220

EPA I.D.# MID 041803123

by TRAVELERS INDEMNITY COMPANY

(Name of Company)

One Tower Square
Hartford, Connecticut 06115

said policy no longer covers the Liability Insurance requirements for a Hazardous Waste Facility Certificate effective as of the 1ST day of JANUARY, 19 86 12:01 a.m. standard time at the address of the named insured as stated in said policy, provided said date is not loss than THIRTY(30) days after the receipt of this notice by the Regional Administrator.

RICH-179
10-08-85

John R. Kenney Secretary (Om)
John R. Kenney
Secretary, Authorized Representative of The Travelers Insurance Companies
One Tower Square
Hartford, Connecticut 06115

Coopers
&Lybrand

certified public accountants

Suite 1000
Seventh and Franklin Building
Richmond, Virginia 23219

telephone (804) 643-0234
twx 710-956-0212
cables Colybrand

in principal areas of the world

March 25, 1983

Ethyl Corporation
330 South Fourth Street
Richmond, Virginia 23219

Dear Sirs:

We have examined the consolidated balance sheet of Ethyl Corporation and Subsidiaries as of December 31, 1982 and the related consolidated statements of income, retained earnings, additional paid-in capital and changes in financial position for the year then ended, and have reported thereon under date of January 28, 1983. Our examination was made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

During the course of our examination, which was made for the purpose of enabling us to express an opinion on the aforementioned financial statements, we have reviewed the letter submitted by Mr. Lawrence E. Blanchard, Jr., Vice Chairman of Ethyl Corporation, to the Environmental Protection Agency and state regulatory agencies administering similar functions required by regulation 40 CFR Parts 264 and 265 and compared the data specified as having been derived from the aforementioned financial statements for the year ended December 31, 1982 to these financial statements. In connection with this procedure, we obtained no knowledge of any matter that would require that the specified data should be adjusted.

This letter is solely for the information of, and assistance to, the Environmental Protection Agency in conducting their investigation of the affairs of Ethyl Corporation in connection with regulation 40 CRF Parts 264 and 265 and those state regulatory agencies administering similar functions and is not to be used, circulated, quoted, or otherwise referred to, for any other purpose.

Very truly yours,

Coopers & Lybrand

MID 041 803 123

ETHYL CORPORATION MID 041 803 123

330 SOUTH FOURTH STREET
POST OFFICE BOX 2189
RICHMOND, VIRGINIA 23217

Regional Administration
Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604

Attn: RCRA Financial Requirements

Dear Sir:

I am the chief financial officer of Ethyl Corporation, 330 South Fourth Street, Richmond, Virginia. This letter is in support of this firm's use of the financial test to demonstrate financial assurance, as specified in Subpart H of 40 CFR Parts 264 and 265.

1. This firm is the owner or operator of the following facilities for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by the test are shown for each facility.

EPA ID	Facility	Closure Cost	Post Closure Cost
MIDO41803123	Ethyl R&D Labs 1600 West Eight Mile Rd. Ferndale, MI 48220	$ 2,512	$ -

2. This firm guarantees, through the corporate guarantee specified in Subpart H of 40 CFR Parts 264 and 265, the closure or post-closure care of the following facilities owned or operated by subsidiaries of this firm. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility:

None

3. In states where EPA is not administering the financial requirements of Subpart H of 40 CFR Parts 264 or 265, this firm, as owner or operator or guarantor, is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Subpart H or 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by such a test are shown for each facility:

EPA ID	Facility	Closure Cost	Post Closure Cost
GAD003273224	The William L. Bonnell Company, Inc. P. O. Box 428 Newnan, GA 30264	$ 5,641	$ -
TND047000898	The William L. Bonnell Company, Inc. P. O. Box 279 Carthage, TN 37030	5,641	-
PAD003004405	Capitol Products Corp. P. O. Box 3070 Harrisburg, PA 17105	9,720	-
IND057396608	Capitol Products Corp. P. O. Box 146 Kentland, IN 47951	9,339	-
ARD05258809	Ethyl Corporation P. O. Box 729 Magnolia, AK 71753	8,191	3,277
TXD008096158	Ethyl Corporation P. O. Box 472 Pasadena, TX 77501	1,350,000	16,991
SCD043384072	Ethyl Corporation P. O. Box 1028 Orangeburg, SC 29115	1,108	-
CAD044430668	Ethyl Corporation Wilmington Terminal P. O. Box 462 Wilmington, CA 90744	1,092	-
SCD04267448	Hardwicke Chemical Co. Route 2, Box 50-A Elgin, SC 29045	765	-

4. This firm is the owner or operator of the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to EPA or a State through the financial test or any other financial assurance mechanism specified in Subpart H of 40 CFR Parts 264 and 265 or equivalent or substantially equivalent State mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility:

None

This firm is required to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on December 31. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended December 31, 1982.

ALTERNATIVE I

1.	Sum of current closure and post-closure cost estimated (total of all cost estimates shown in the four paragraphs above).....	$ 1,414,277
* 2.	Total liabilities (if any portion of the closure or post-closure cost estimates is included in total liabilities, you may deduct the amount of that portion from this line and add that amount to lines 3 and 4....	692,359,000
* 3.	Tangible net worth.....	766,175,000
* 4.	Net worth.....	831,537,000
* 5.	Current assets.....	483,448,000
* 6.	Current liabilities.....	208,918,000
7.	Net working capital (line 5 minus line 6)....	274,530,000
* 8.	The sum of net income plus depreciation, depletion, and amortization.....	177,944,000
* 9.	Total assets in U. S. (required only if less than 90% of firm's assets are located in the U. S.).....	1,355,466,000

		Yes	No
10.	Is line 3 at least $10 million?.....	X	
11.	Is line 3 at least 6 times line 1?.....	X	
12.	Is line 7 at least 6 times line 1?.....	X	
*13.	Are at least 90% of firm's assets located in the U. S.? If not, complete line 14.....		X
14.	Is line 9 at least 6 times line 1?.....	X	
15.	Is line 2 divided by line 4 less than 2.0?....	X	
16.	Is line 8 divided by line 2 greater than 0.1?.	X	
17.	Is line 5 divided by line 6 greater than 1.5?.	X	

I hereby certify the wording of this letter is identical to the wording specified in 40 CFR 264.151(f) as such regulations were constituted on the date shown immediately below.

ETHYL CORPORATION

L.E. Blanchard, Jr.
Vice Chairman

Date March 25, 1983

Enclosures: Ethyl Corporation 1982 Annual Report
Special Report from Coopers & Lybrand

ETHYL CORPORATION

RESEARCH AND DEVELOPMENT DEPARTMENT

July 13, 1982

PLEASE ADDRESS REPLY
TO: P. O. BOX 341
BATON ROUGE, LA. 70821

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Regional Administrator
EPA Region V
230 South Dearborn Street
Chicago, Illinois 60604

Attention: Valdus Adamkus

Dear Sir:

Attached is the hazardous waste facility certification of liability insurance for Ethyl Corporation Research and Development Labs in Ferndale, Michigan (MID041803123). This certificate meets the requirements of 40CFR 264.147.

Sincerely,

D. E. Park

D. E. Park, Director
Corporate Environmental Affairs

DEP:ba

Attachment

HAZARDOUS WASTE FACILITY CERTIFICATE
of
LIABILITY INSURANCE

☒ Travelers Indemnity Company
☐ Travelers Indemnity Company of America
☐ The Phoenix Insurance Company

☐ Travelers Indemnity Company of Rhode Island
☐ Travelers Indemnity Company of Illinois
☐ Charter Oak Fire Insurance Company

One Tower Square
Hartford, Connecticut 06115

hereby certifies that it has issued liability insurance covering bodily injury and property damage to

Name ETHYL CORPORATION

Mailing Address 330 SOUTH FOURTH ST
RICHMOND VA 23219

in connection with the insured's obligation to demonstrate financial responsibility under 40 CFR 264.147 or 265.147. The coverage applies at

E.P.A. I.D. NUMBER	NAME	ADDRESS
1. MID041803123	ETHYL R&D LABS	1600 WEST EIGHT MILE RD FERNDALE MI 48220
2.		

for:

☒ sudden accidental occurrences
☐ non-sudden accidental occurrences
☐ sudden and non-sudden accidental occurrences

The limits of liability are $ 1,000,000 each occurrence

$ 2,000,000 annual aggregate

exclusive of legal defense costs. The coverage is provided under

Policy Number TREE-SLG-108T148-2-82

Issued on 01-26-82

The effective date of said policy is 01-01-82.

RICH-179
07-06-82

(CONTINUED ON REVERSE)

ETHYL CORPORATION

330 SOUTH FOURTH STREET

POST OFFICE BOX 2189

RICHMOND, VIRGINIA 23217

June 29, 1982

Regional Administrator
Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604

ATTN: RCRA Financial Requirements

Dear Sir:

I am the chief financial officer of Ethyl Corporation. This letter is in support of this firm's use of the financial test to demonstrate financial assurance, as specified in Subpart H of 40 CFR Parts 264 and 265.

1. This firm is the owner or operator of the following facilities for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by the test are shown for each facility.

EPA ID	Facility	Closure Cost	Post Closure Cost
LAD000814137	Ethyl Disposal Well Serial #135688 Section 27 Township 8 South Range 12 East, LA	$ 5,641	
LAD07940895	Ethyl Corporation P. O. Box 341 Baton Rouge, LA 70821	93,928	3,277
SCD043384072	Ethyl Corporation P. O. Box 1028 Orangeburg, SC 29115	3,277	
MID041803123	Ethyl R&D Labs 1600 West Eight Mile Rd. Ferndale, MI 48220	2,512	

2. This firm guarantees, through the corporate guarantee specified in Subpart H of 40 CFR Parts 264 and 265, the closure or post-closure care of the following facilities owned or operated by subsidiaries

of this firm. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility:

EPA ID	Facility	Closure Cost	Post Closure Cost
IND057396608	Capitol Products Corp. P. O. Box 146 Kentland, IN 47951	$ 9,339	
NJD000310961	Saytech, Inc. 880 Main Street Sayreville, NJ 08872	15,291	
SCD04267448	Hardwicke Chemical Co. Route 2, Box 50-A Elgin, SC 29045	765	

3. In states where EPA is not administering the financial requirements of Subpart H of 40 CFR Parts 264 or 265, this firm, as owner or operator or guarantor, is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by such a test are shown for each facility:

EPA ID	Facility	Closure Cost	Post Closure Cost
GAD003273224	The William L. Bonnell Company, Inc. P. O. Box 428 Newnan, GA 30264	$ 5,641	
TND047000898	The William L. Bonnell Company, Inc. P. O. Box 279 Carthage, TN 37030	5,641	
PAD003004405	Capitol Products Corp. P. O. Box 3070 Harrisburg, PA 17105	9,720	
ARD05258809	Ethyl Corporation P. O. Box 729 Magnolia, AK 71753	8,191	3,277
TXD008096158	Ethyl Corporation P. O. Box 472 Pasadena, TX 77501	1,350,000	16,991

EPA ID	Facility	Closure Cost	Post Closure Cost
CAD044430668	Ethyl Corporation Wilmington Terminal P. O. Box 462 Wilmington, CA 90744	1,092	

4. This firm is the owner or operator of the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to EPA or a State through the financial test or any other financial assurance mechanism specified in Subpart H of 40 CFR Parts 264 and 265 or equivalent or substantially equivalent State mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility: NONE

This firm is required to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on December 31. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended December 31, 1981.

ALTERNATIVE I

1.	Sum of current closure and post-closure cost estimates (total of all cost estimates shown in the four paragraphs above)	$ 1,534,583
*2.	Total liabilities (if any portion of the closure or post-closure cost estimates is included in total liabilities, you may deduct the amount of that portion from this line and add that amount to lines 3 and 4	511,629,000
*3.	Tangible net worth	683,001,000
*4.	Net worth	750,325,000
*5.	Current assets	517,803,000
*6.	Current liabilities	230,690,000
7.	Net working capital (line 5 minus line 6)	287,113,000
*8.	The sum of net income plus depreciation, depletion, and amortization	170,348,000
*9.	Total assets in U. S. (required only if less than 90% of firm's assets are located in the U. S.)	1,066,445,000

ALTERNATIVE I - (continued)

		Yes	No
10.	Is line 3 at least $10 million?.....	X	
11.	Is line 3 at least 6 times line 1?.....	X	
12.	Is line 7 at least 6 times line 1?.....	X	
*13.	Are at least 90% of firm's assets located in the U. S.? If not, complete line 14.....		X
14.	Is line 9 at least 6 times line 1?.....	X	
15.	Is line 2 divided by line 4 less than 2.0?.....	X	
16.	Is line 8 divided by line 2 greater than 0.1?.....	X	
17.	Is line 5 divided by line 6 greater than 1.5?.....	X	

I hereby certify the wording of this letter is identical to the wording specified in 40 CFR 264.151(f) as such regulations were constituted on the date shown immediately below.

ETHYL CORPORATION

Date: JUN 2 9 1982

Lawrence E. Blanchard, Jr.
Vice Chairman

Enclosures: Ethyl Corporation 1981 Annual Report
Special Report from Coopers & Lybrand
Corporate Guaranty Re Capitol Products Corp.

Coopers
&Lybrand

certified public accountants

Suite 1000
Seventh and Franklin Building
Richmond, Virginia 23219

telephone (804) 643-0234
twx 710-956-0212
cables Colybrand

in principal areas of the world

June 29, 1982

Ethyl Corporation
330 South Fourth Street
Richmond, Virginia 23219

Dear Sirs:

We have examined the consolidated balance sheet of Ethyl Corporation and Subsidiaries as of December 31, 1981 and the related consolidated statements of income, retained earnings, changes in financial position, and additional paid-in capital for the year then ended, and have reported thereon under date of January 28, 1982. Our examination was made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

During the course of our examination, which was made for the purpose of enabling us to express an opinion on the aforementioned financial statements, we have reviewed the letter submitted by Mr. Lawrence E. Blanchard, Jr., Vice-Chairman of Ethyl Corporation, to the Regional Administrator of the Environmental Protection Agency required by regulation 40 CFR Parts 264 and 265, and compared the data specified as having been derived from the aforementioned financial statements for the year ended December 31, 1981 to these financial statements. In connection with this procedure, we obtained no knowledge of any matter that would require that the specified data should be adjusted.

This letter is solely for the information of, and assistance to, the Environmental Protection Agency in conducting their investigation of the affairs of Ethyl Corporation in connection with regulation 40 CFR Parts 264 and 265 and those state regulatory agencies administering similar functions and is not to be used, circulated, quoted, or otherwise referred to, for any other purpose.

Very truly yours,

Coopers & Lybrand

CORPORATE GUARANTEE FOR CLOSURE OR POST-CLOSURE CARE

Guarantee made this 29th day of June, 1982 by Ethyl Corporation, a business corporation organized under the laws of the State of Virginia, herein referred to as guarantor, to the United States Environmental Protection Agency (EPA), obligee, on behalf of our subsidiary, Capitol Products Corporation of P. O. Box 146, Kentland, IN 47951.

Recitals

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in 40 CFR 264.143(f), 264.145(f), 265.143(e), and 265.145(e).

2. Capitol Products Corporation owns and operates the following hazardous waste management facility covered by this guarantee:

EPA ID#IND057396608
Capitol Products Corporation
P. O. Box 146
Kentland, IN 47951
Closure

3. "Closure plans" and "post-closure plans" as used below refer to the plans maintained as required by Subpart G of 40 CFR Parts 264 and 265 for the closure and post-closure care of facilities as identified above.

4. For value received from Capitol Products Corporation guarantor guarantees to EPA that in the event that Capitol Products Corporation fails to perform closure of the above facility in accordance with closure or post-closure plans and other permit or interim status requirements whenever required to do so, the guarantor shall do so or establish a trust fund as specified in Subpart H of 40 CFR Parts 264 and 265, as applicable, in the name of Capitol Products Corporation in the amount of the current closure or post-closure cost estimates as specified in Subpart H of 40 CFR Parts 264 and 265.

5. Guarantor agrees that if, at the end of any fiscal year before termination of this agreement, the guarantor fails to meet the financial test criteria, guarantor shall send within 90 days, by certified mail, notice to the EPA Regional Administrator for the Region in which the facility is located and to Capitol Products Corporation that he intends to provide alternate financial assurance as specified in Subpart H of 40 CFR Parts 264 or 265, as applicable, in the name of Capitol Products Corporation. Within 120 days after the end of such fiscal year, the guarantor shall establish such financial assurance unless Capitol Products Corporation has done so.

6. The guarantor agrees to notify the EPA Regional Administrator by certified mail, of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U. S. Code, naming guarantor as debtor, within 10 days after commencement of the proceeding.

7. Guarantor agrees that within 30 days after being notified by an EPA Regional Administrator of a determination that guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a guarantor of closure or post-closure care, he shall establish alternate financial assurance as specified in Subpart H of 40 CFR Parts 264 or 265, as applicable, in the name of Capitol Products Corporation unless Capitol Products Corporation has done so.

8. Guarantor agrees to remain bound under this guarantee notwithstanding any or all of the following: amendment or modification of the closure or post-closure plan, amendment or modification of the permit, the extension or reduction of the time of performance of closure or post-closure, or any other modification or alteration of an obligation of the owner or operator pursuant to 40 CFR Parts 264 or 265.

9. Guarantor agrees to remain bound under this guarantee for so long as Capitol Products Corporation must comply with the applicable financial assurance requirements of Subpart H of 40 CFR Parts 264 and 265 for the above-listed facilities, except that guarantor may cancel this guarantee by sending notice by certified mail to the EPA Regional Administrator for the Region in which the facility is located and to Capitol Products Corporation, such cancellation to become effective no earlier than 120 days after receipt of such notice by both EPA and Capitol Products Corporation, as evidenced by the return receipts.

10. Guarantor agrees that if Capitol Products Corporation fails to provide alternate financial assurance as specified in Subpart H of 40 CFR Parts 264 or 265, as applicable, and obtain written approval of such assurance from the EPA Regional Administrator within 90 days after a notice of cancellation by the guarantor is received by an EPA Regional Administrator from guarantor, guarantor shall provide such alternate financial assurance in the name of Capitol Products Corporation.

11. Guarantor expressly waives notice of acceptance of this guarantee by the EPA or by Capitol Products Corporation. Guarantor also expressly waives notice of amendments or modification of the closure and/or post closure plan and of amendments or modifications of the facility permit.

I hereby certify that the wording of this guarantee is identical to the wording specified in 40 CFR 264.151(h) as such regulations were constituted on the date first above written.

ETHYL CORPORATION

L E Blanchard

Lawrence E. Blanchard, Jr.
Vice Chairman

WITNESS OR NOTARY

Lawrence Threeyis

ETHYL CORPORATION

July 29, 1982

PLEASE ADDRESS REPLY
TO: P. O. BOX 341
BATON ROUGE, LA. 70821

Mr. Valdus Adamkus, Regional Administrator
EPA Region V
230 S Dearborn Street
Chicago, ILL 60604

Dear Sir:

The compliance date for submission of annual reports at hazardous waste treatment storage and disposal facilities was postponed until August 1, 1982, (47FR 7841). EPA Washington was contacted to obtain forms and requirements for the annual report.

Following conversations with Mr. Bob Axelrad, EPA Program Officer Hazardous Waste Division, Washington and Ms. Anita Ducco, Agency Clearance Officer, Office of Management and Budget, Washington, it was determined that the form required for annual reporting at RCRA facilities is not available at this time.

It is my understanding that the form is still under review in OMB, and that no submission to EPA is required until OMB clearance has been given.

According to Mr. Axelrad, there will be a notice in the Federal Register when OMB review is completed. We will comply with the submission requirements in the forthcoming notice.

Sincerely,

D. E. Park

D. E. Park, Corporate Director
Environmental Affairs

DEP:jht

HES 3/14/84
Status 1
Code X

STATE OF MICHIGAN

JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909

RONALD O. SKOOG, Director

January 25, 1984

Ethyl Corporation
R & D Laboratories
1600 W. Eight Mile Road
Ferndale, MI 48220

U.S. EPA I.D. No.: MID 041803123

Attention: William J. Brown, Research Supervisor

Dear Mr. Brown:

On January 19, 1984, as an authorized representative of the United States Protection Agency, I conducted an inspection at your facility to determine compliance of that facility with the requirements of the Resource Conservation Recovery Act (RCRA) as amended.

Based on my observations and review of your manifest records at the time of my visit, it appears that you have completed closure of your site as a storage facility of hazardous waste as per your closure plan approved by the EPA on October 11, 1983. It was indicated that this closure included decontamination of equipment, disposal of that rinsate and disposal off-site of all containerized hazardous waste. The company, as indicated in your records, shipped over 300 55-gallon drums of hazardous waste in September, 1983.

As discussed, it is necessary that you submit to the Regional Administrator certification by the owner or operator and by an independent registered professional engineer that the facility has been closed in accordance with the specifications in the approved closure plan.

Thank you for your cooperation. If you have questions regarding this matter, please feel free to contact me at (313) 368-3335.

Sincerely,
HAZARDOUS WASTE DIVISION

Laura L. Lodisio
DETROIT DISTRICT OFFICE

LLL/rc

cc: U.S. EPA - Region V
J. Bohunsky
K. Burda

RCRA Inspection Report

EPA Identification Number: MID 041803123

Installation Name: ETHYL CORPORATION - R&D LABORATORIES

Location Address: 1600 WEST EIGHT MILE RD.

City: FERNDALE State: MICHIGAN 48220

Date of inspection: 01/19/84 Time of inspection (from) 3:30 (to) 4:30

Person(s) interviewed	Title	Telephone
WILLIAM J. BROWN	RESEARCH SUPERVISOR	(313) 399-9600

Inspector(s)	Agency/Title	Telephone
LAURA LOOMIS	MDNR - RESOURCE SPECIALIST	(313) 368-3335

Installation Activity (mark only one box) — Inspection Form(s)

- [X] Treatment/Storage/Disposal per 40 CFR 265.1 and/or Generation and/or Transportation — A
- [ ] Treatment/Storage/Disposal (no generation or Transportation) — A
- [ ] Generation and Transportation — B, C
- [ ] Generation only — B
- [ ] Transportation only — C

→ COMPANY SUBMITTED CLOSURE PLAN JUNE 3, 1983 WHICH WAS APPROVED OCT. 11, 1983. FINAL CLOSURE WAS SET FOR DEC. 31, 1983. (CO. WAS GENERATOR & STORAGE FACILITY ONLY.)

BASED ON MY OBSERVATIONS & EVALUATION DURING INSPECTION IT APPEARS THAT CO. HAS COMPLETED CLOSURE ACCORDING TO APPROVED PLAN.

(CONTINUED)

Remarks: COMPANY STORED IN CONTAINERS ONLY. DRUM RACK STORAGE AREA FOR HAZ. WASTES WERE EMPTIED. ONLY RAW MATERIAL STORAGE RACKS CONTAINED DRUMS. ALSO, STORAGE AREA IN BLDG. WAS EMPTY.

REVIEWED MANIFESTS. MANIFESTS INDICATE THAT CO. SHIPPED OVER 300 DRUMS (55 GAL.) IN SEPTEMBER, 1983. ALL SHIPMENTS WERE TRANSPORTED BY GREAT LAKES ENVIRONMENTAL TO SCA IN CHICAGO FOR INCINERATION. ALL MANIFESTS LOOKED IN ORDER.

CO. HAS NO INTENTIONS OF FUTURE GENERATION OF HAZ. WASTE.

CO. CURRENTLY GENERATES WASTE OIL (APPROX. 1800 GALS. FOR 1983) AND WASTE GASOLINE (APPROX. 4500 GALS. FOR 1983) CONTAMINATED W/ ADDITIVES NO LONGER USABLE AS MOTOR FUEL. THIS WASTE IS PICKED UP ~~AS~~ BY BUCKS WASTE OIL. (PAID FOR RECYLE) AS 136 WASTE. BLENDED FOR RE-USE AS BOILER FUEL. MANIFESTS APPEAR TO BE IN ORDER.

(4-82B)

NOTE: CO. HAS NOT YET GOTTEN CERTIFICATION OF CLOSURE FROM REGISTERED P.E., AS PER 40

MID041803123 (TSD, G)

ETHYL CORPORATION
RESEARCH AND DEVELOPMENT DEPARTMENT · RESEARCH LABORATORIES
1600 WEST EIGHT MILE ROAD · FERNDALE, MICHIGAN 48220 · (313) 398-9600

RECEIVED
AUG 31 1982
QUALITY
EPA

August 30, 1982

#714
GES
10/7/82

EPA ID# MID041803123

SEP 03 1982

State of Michigan
Department of Natural Resources
2455 N. Williams Lake Road
Pontiac, Michigan 48054

Attention: Ms. Andrea Stewart

Dear Sirs:

In reply to your request, we submit this response to your inspection of our research and development facilities on August 4 to evaluate compliance with subtitle C of RCRA.

Of the 88 items you checked, you found us in non-compliance with six in your letter of August 10, 1982. We respond as follows:

1. You found no danger signs posted in our storage area as required by 40CFR265.14(c). We believe that exemptions cited in 265.14(a)(1) and (a)(2) applied in our case inasmuch as our outdoor drum rack storage is enclosed by an eight-foot chain link fence. Furthermore, our security guard regularly makes a watchclock station stop and inspection at the drum rack, outside of our regular work hours. Also, warning signs are posted in all directions around the drum rack reading "Danger--No Smoking, Matches or Open Lights." We are purchasing additional signs to designate our hazardous waste area.

2. An inspection log has been started and all observations recorded as mandated by 40CFR265.15(d). See Appendix I. Previously, only positive reports had been made by our security guards, fuel house personnel and pilot plant personnel.

3. You found that our training records do not show an annual review of initial training as required by 40CFR265.16(c). Our records do show waste management training for our personnel for 1979, 1980 and 1981. See Appendix II. Each successive year has seen a thorough review of waste management requirements, although 1982 training has not been completed as yet. We will henceforth document each training session on waste disposal for those personnel having responsibility.

4. Our contingency plan has been amended to show our evacuation plan. Please replace page 5 of your copy of the plan with the new page 5 enclosed.

5. Our written waste management operating record as required by 40CFR265.73 is enclosed herewith. See Appendix III.

6. See items 2 and 5 above. No information or records were knowingly withheld. Our primary and secondary waste management contact persons were not in the laboratories at the time of this inspection.

If you have any questions regarding this response, please contact me.

Sincerely,

C. J. Worrel

CJW/lcb

Enclos.

Appendix I

WASTE INSPECTION

1982

Time/ Date	Location	Inspector	Observations/Remedial Action

Appendix II

WASTE MANAGEMENT TRAINING AND RETRAINING

C. J. Worrel, Supervisor of Safety & Security, provides overall advice and guidance on waste disposal.

Nolwood Chemical Recovery Systems RCRA Seminar in Detroit, March 10, 1981.

ACS Detroit Chapter Meeting on "Coping with Hazardous Waste Management," December 4, 1980

Seminar on New Air, Water, Solid and Hazardous Waste Laws and Rules for Michigan, sponsored by Michigan State Chamber of Commerce, Lansing, September 23, 1980.

U. A. Lehikoinen, Research Supervisor, Supervises group that prepares chemical waste for disposal.

Nolwood Chemical Recovery Systems RCRA Seminar in Detroit, March 10, 1981.

ACS Detroit Chapter Meeting on "Coping with Hazardous Waste Management," December 4, 1980.

Hazardous Waste Management Symposim at Michigan Tech. in Houghton, June 25-27, 1980.

Treatment and Disposal of Hazardous and Toxic Wastes Symposium at Michigan Tech. in Houghton, June 28-29, 1979.

J. M. Guccione, Research Engineer, in direct charge of waste disposal.

Seminar on hazardous waste by Safety Council for Southeast Michigan in Detroit, March 26, 1981.

K. A. Keblys, Assistant Director Research, supervises chemists who are waste generators.

ACS Detroit Chapter Meeting on "Coping with Hazardous Waste Management," December 4, 1980

G. G. Knapp, Research Associate, Safety Committee Member, Area Safety Representative, waster generator.

ACS Detroit Chapter Meeting on "Coping with Hazardous Waste Management;" December 4, 1980.

B. R. Meltsner, Research Chemist, Chemical waste generator.

Hazardous Materials Conference in Miami Beach, Florida, April 25-27, 1979.

CJWorrel/lcb

8/30/82

WASTE MANAGEMENT OPERATING RECORD

To conform with 40CFR265.73 under U.S. EPA Resource Conservation and Recovery Act.

All hazardous waste that is generated in the individual laboratories and the pilot plant is collected in 55-gallon drums at the north end of U-Bldg.by pilot plant personnel. A Waste Management Operating Record showing the type, analysis, amount, disposal date, manifest number, incidents and inspection of each drum of waste is maintained on the attached tabular form. The drums of waste are stored on the Drum Rack (Bldg. "V").

Closure cost estimate for this facility is $2512.00.

CP 153 Rev.
Prtd. U.S.A.

WASTE MANAGEMENT OPERATING RECORD

WASTE DESCRIPTION					RECORD OF					
TYPE	ANALYSIS		AMOUNT	Disposal Date	Manifest Number	INCIDENTS			INSPECTIONS		

2. Large spills will require outside assistance for pick up and removal. For assistance, see "outside Contact for Assistance" under heading marked "Notification Telephone Numbers."

3. Waste shall be picked up for disposal only by approved waste haulers.

4. Small or Large Spills of Liquid Chemical. The pick up of such materials, if possible, shall be accomplished by containment and pumping into an empty tanker or empty drums with covers and thus be ready for disposal.

   The remainder of a spill, not capable of being pumped, shall be picked up using shovels along with suitable sorbent materials. The debris shall be held in drums with covers and held ready for disposal.

5. Spills of Hazardous Substances/Hazardous Waste. Shall be picked up with sorbent materials and stored in lined drums with covers and held ready for disposal. In the case of Polychlorinated Biphenyls (PCB's) disposal requirements are given in 40CFR761.10 and requirements for highly toxic materials listed in 161.333 are given in 261.5. All sorbent materials and all materials that come in contact with PCB's (including wood, rags, leaves, trees, containers, shovels, concrete, sand, earth, etc.) shall be picked up and stored on high ground in a specially roped off area, under protective cover (not under the weather), the storage area shall have an impermeable floor with curbs to prevent dissipation of the substance(s) beyond the confines of the area until they have been disposed of according to regulations. The storage area shall be restricted from normal access and traffic and shall be conspicuously posted as "Storage Area, Toxic Substances."

B. Disposal

Disposal of all spilled substances and/or contaminated debris, shall be only in approved sanitary or chemical landfill areas according to applicable regulations. All wastes classified as hazardous must be disposed in accordance with the regulations of 40CFR262, 263, 264 and 165.

VII. Evacuation

In the event of fire, explosion or release of vapors or gases made the facility untenable, as determined by the Emergency Coordinator or higher authority, evacuation would be carried out as described in Operations Bulletin No. 35., "Major Emergency Procedures." The alarms and evacuation routes described therein would be used.

#714

EPA

2455 N. Williams Lake Road
Pontiac, Michigan 48054

August 10, 1982

Ethyl Corporation
R & D Laboratories
1600 W. Eight Mile Road
Ferndale, Michigan 48220

Attention: Mr. Ross Stevenson

Gentlemen:

On August 4, 1982 staff of the Department of Natural Resources conducted an investigation of your facility located at 1600 W. Eight Mile Road in Ferndale, Michigan to evaluate compliance of that facility with requirements of subtitle C of the Resource Conservation and Recovery Act (RCRA) as amended.

As a result of that investigation, staff of the Department of Natural Resources have determined that the above facility is in violation of the requirements of subtitle C of RCRA. Specifically, staff found that:

1. No danger signs were posted at entrance (to storage area) as required in 40 CFR 265.14 (c).
2. No inspection log is maintained as required in 40 CFR 265.15 (d).
3. Personnel training records do not indicate that personnel have taken part in an annual review of initial training as required in 40 CFR 265.16 (c).
4. The contingency plan does not include an evacuation plan for personnel as required in 40 CFR 265.52 (f).
5. No operating record is maintained as required in 40 CFR 265.73.
6. All required facility records were not available as required in 40 CFR 265.74 (a).

We request that you respond to this letter by September 1, 1982 providing documentation to this office regarding those actions taken to correct these violations.

If you have any questions regarding this matter, please feel free to contact me at (313) 666-2700.

Sincerely,

Andrea Stewart

Andrea Stewart
Resource Specialist

#714

RCRA Inspection Report

EPA Identification Number: M I D 0 4 1 8 0 3 1 2 3

Installation Name: ETHYL CORPORATION R + D LABORATORIES

Location Address: 1600 WEST EIGHT MILE ROAD

City: FERNDALE State: MICHIGAN

Date of inspection: 8/04/82 Time of inspection (from) 10:45 A.M. (to) 12:30 P.M.

Person(s) interviewed	Title	Telephone
ROSS STEVENSON	SUPT. ADM. SERVICES	(313) 399-9600
JOHN GUCCIONE	RESEARCH ENGINEER	(313) 399-9600

Inspector(s)	Agency/Title	Telephone
ANDREA STEWART	MDNR - AIR QUALITY	(313) 666-2700

Installation Activity (mark only one box)	Inspection Form(s)
[X] Treatment/Storage/Disposal per 40 CFR 265.1 and/or Generation and/or Transportation	A
[ ] Treatment/Storage/Disposal (no generation or Transportation)	A
[ ] Generation and Transportation	B, C
[ ] Generation only	B
[ ] Transportation only	C

Section A: SCOPE OF INSPECTION.

1. Interim status standards for treatment storage or disposal of HAZARDOUS WASTES SUBJECT TO 40 CFR 265.1. Complete Inspection Form A sections B, C, D, E, and G.

2. Place an "X" in the box(es) corresponding to the facility's treatment, storage and disposal processes, and generation and/or transportation activity (if any). Complete only the applicable sections and appendixes.

Permit application process(es) (EPA Form 3510-3)			Inspection Form A section(s)
S01	☒	storage in containers	I
S02	☐	storage in tanks	J
T01	☐	treatment in tanks	J
S04	☐	storage in surface impoundment	K,F
T02	☐	treatment in surface impoundment	K,F
D83	☐	disposal in surface impoundment	K,F
S03	☐	storage in waste pile	L
D81	☐	disposal by land application	M,F
D80	☐	disposal in landfill	N,F
T03	☐	treatment by incineration	O/P
T04	☐	treatment in devices other than tanks, surface impoundments, or incinerators	Q

Other activities

GENERATOR	☒	APPENDIX	GN
TRANSPORTER	☐	APPENDIX	TR

3. Indicate any hazardous waste processes, by process code, which have been omitted from Part A of the facility's permit application.

4. Indicate any hazardous waste processes (by process code and line number on EPA Form 3510-3 page 1 of 5) which appear to be eligible for exclusion per 40 CFR 265.1(c). Provide a brief rationale for the possible exclusion.

Section B: GENERAL FACILITY STANDARDS: (Part 265 Subpart B)

	YES	NO	NI*	Remarks
1. Has the Regional Administrator been notified regarding: 265.12				
a. Receipt of hazardous waste from a foreign source?			✓	NO WASTE RECEIVED FROM FOREIGN SOURCE
b. Facility expansion?			✓	NO FACILITY EXPANSION
c. Change of owner or operator?			✓	NO CHANGE OF OWNER/OPERA
2. General Waste Analysis: 265.13				
a. Has the owner or operator obtained a detailed chemical and physical analysis of the waste?	✓			
b. Does the owner or operator have a detailed waste analysis plan on file at the facility?	✓			WASTE IS GENERATED BY BATCH PROCESS - EACH BATCH IS ANALYZED AND RECORDED IN A LOG WHICH IS KEPT ON FILE.
c. Does the waste analysis plan specify procedures for inspection and analysis of each movement of hazardous waste from off-site?			✓	SEE 2b
3. Security - Do security measures include: (if applicable) 265.14				
a. 24-Hour surveillance? or	✓			
b. i. Artificial or natural barrier around facility? and	✓			
ii. Controlled entry?	✓			
c. Danger sign(s) at entrance?		✓		
4. Owner or operator inspections: 265.15				
a. Does the owner or operator inspect the facility for malfunctions, deterioration, operator errors, and dischanges of hazardous waste that may affect human health or the environment?	✓			

*Not Inspected

	YES	NO	NI	Remarks
b. Does the owner or operator have an inspection schedule at the facility?	✓			
c. If so, does the schedule address the inspection of the following items:				
i. monitoring equipment?	✓			HEAT DETECTORS
ii. safety and emergency equipment?	✓			
iii. security devices?	✓			
iv. operating and structural equipment (i.e. dikes, pumps, etc.)?			✓	
v. type of problems to be looked for during the inspection (e.g. leaky fitting, defective pump, etc.)?	✓			
vi. inspection frequency (based upon the possible deterioration rate of the equipment)?	✓			STORAGE AREA INSPECTED DAILY
d. Are areas subject to spills inspected daily when in use?	✓			
e. Does the owner or operator maintain an inspection log or summary of owner or operator inspections?		✓		
f. Does the inspection log contain the following information:				
i. the date and time of the inspection?			✓	
ii. the name of the inspector?			✓	
iii. a notation of the observations made?			✓	
iv. the date and nature of any repairs or remedial actions?			✓	
5. Do personnel training records include: 265.16				
a. Job titles?	✓			
b. Job descriptions?	✓			

	YES	NO	NI	Remarks
c. Description of training?	✓			
d. Records of training?	✓			
e. Did facility personnel receive the required training by 5-19-81?	✓			
f. Do new personnel receive required training within six months?			✓	
g. Do personnel training records indicate that personnel have taken part in an annual review of initital training?		✓		
6. If required, are the following special requirements for ignitable, reactive, or incompatible wastes addressed? 265.17				
a. Special handling?	✓			
b. No smoking signs?	✓			
c. Separation and protection from ignition sources?	✓			

Section C: PREPAREDNESS AND PREVENTION: (Part 265 Subpart C)

	YES	NO	NI	Remarks
1. Maintenance and Operation of Facility: 265.31 Is there any evidence of fire, explosion, or release of hazardous waste or hazardous waste constituent?		✓		
2. If required, does the facility have the following equipment: 265.32				
a. Internal communications or alarm systems?	✓			
b. Telephone or 2-way radios at the scene of operations?	✓			
c. Portable fire extinguishers, fire control, spill control equipment and decontamination equipment?	✓			

Indicate the volume of water and/or foam available for fire control:

2 HOSES FOR WATER AVAILABLE

150-LB. PORTABLE DRY CHEMICAL FIRE EXTINGUISHER

3. Testing and Maintenance of Emergency Equipment: 265.33				
a. Has the owner or operator established testing and maintenance procedures for emergency equipment?	✓			
b. Is emergency equipment maintained in operable condition?	✓			
4. Has owner or operator provided immediate access to internal alarms? (if needed) 265.34	✓			
5. Is there adequate aisle space for unobstructed movement?	✓			
6. Has the owner or operator attempted to make arrangements with local authorities in case of an emergency at the facility?	✓			

Section D: CONTINGENCY PLAN AND EMERGENCY PROCEDURES: (Part 265 Subpart D)

	YES	NO	NI	Remarks
1. Does the Contingency Plan contain the following information: 265.52				
a. The actions facility personnel must take to comply with §265.51 and 265.56 in response to fires, explosions, or any unplanned release of hazardous waste? (If the owner has a Spill Prevention, Control, and Countermeasures (SPCC) Plan, he needs only to amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this Part (as applicable.)	✓			
b. Arrangements agreed by local police departments, fire departments hospitals, contractors, and State and local emergency response teams to coordinate emergency services pursuant to §265.37?	✓			
c. Names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinators?	✓			
d. A list of all emergency equipment at the facility which includes the location and physical description of each item on the list and a brief outline of its capabilities?	✓			
e. An evacuation plan for facility personnel where there is a possibility that evacuation could be necessary? (This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes?)		✓		
2. Are copies of the Contingency Plan available at the site and local emergency organizations? 265.53	✓			

	YES	NO	NI	Remarks
3. Emergency Coordinator 265.55				
a. Is the facility Emergency Coordinator identified?	✓			U. A. LEHIKOINEN
b. Is coordinator familiar with all aspects of site operation and emergency procedures?	✓			
c. Does the Emergency Coordinator have the authority to carry out the Contingency Plan?	✓			
4. Emergency Procedures 265.56				
If an emergency situation has occurred at this facility, has the Emergency Coordinator followed the emergency procedures listed in 265.56?			✓	NO EMERGENCY SITUATION HAS OCCURRE

Section E: MANIFEST SYSTEM, RECORDKEEPING, AND REPORTING: (Part 265 Subpart E)

	YES	NO	NI	Remarks
** 1. Use of Manifest System 265.71				FACILITY DOES NOT RECEIVE WASTE FROM OFF-SITE
a. Does the facility follow the procedures listed in §265.71 for processing each manifest? (Particularly sending a copy of the signed manifest back to the generator within 30 days after delivery.)				
b. Are records of past shipments retained for 3 years?				
** 2. Does the owner or operator meet requirements regarding manifest discrepancies? 265.72				

** Not applicable to owners or operators of on-site facilities that do not receive any waste from off-site sources.

	YES	NO	NI	Remarks
3. Operating Record 265.73				
a. Does the owner or operator maintain an operating record as required in 265.73?		✓		
b. Does the operating record contain the following information:				
i. The method(s) and date(s) of each waste's treatment, storage, or disposal as required in 40 CFR Part 265 Appendix I?			✓	
ii. The location and quantity of each hazardous waste within the facility? (This information should be cross-referenced to specific manifest number, if waste was accompanied by by a manifest.)			✓	
***iii. A map or diagram of each cell or disposal area				

*** only applies to disposal facilities

	YES	NO	NI	Remarks
showing the location and quantity of each hazardous waste? (This information should be cross-referenced to specific manifest number, if waste was accompanied by a manifest.)				NOT A DISPOSAL FACILITY
iv. Records and results of all waste analyses, trial tests, monitoring data, and operator inspections?			✓	
v. Reports detailing all incidents that required implementation of the Contingency Plan?			✓	
vi. All closure and post closure costs as applicable?			✓	
4. Availability of Records 265.74				
Are all facility records required under 40 CFR Part 265 available for inspection?		✓		
**Unmanifested Waste Reports 265.76				FACILITY DOES NOT RECEIVE WASTE FROM OFF-SITE
a. Has the facility accepted any hazardous waste from an off-site generator subject to 40 CFR 262.20 without a manifest or or shipping paper?				
b. If "a" is yes, provide the identity of the source of the waste and a description of the quantity, type, and date received for each unmanifested hazardous waste shipment.				

** Not applicable to owners or operators of on-site facilities that do not receive any hazardous from off-site sources.

Section G - CLOSURE AND POST CLOSURE (Part 265 Subpart G)

	YES	NO	NI	Remarks
1. Closure 265.112				
a. Is the facility closure plan available for inspection?	✓			
b. Does the plan identify:				
i. maximum extent unclosed during facility life?	✓			
ii. maximum hazardous waste inventory?	✓			
iv. estimated year of closure?	✓			"CLOSURE NOT ANTICIPATE
v. schedule of closure activities?	✓			
c. Has closure begun?		✓		
*2. Post-Closure 265.118	NOT A DISPOSAL FACILITY			
a. Is the post-closure plan available for inspection?				
b. Does this plan contain:				
i. description of groundwater monitoring activities and frequencies?				
ii. description of maintenance activities and frequencies for				
AA. integrity of cap, final cover, or containment structures, where applicable				
BB. facility monitoring equipment				
iii. name, address, and phone number of person or office to contact during post-closure care period?				
c. Has the post-closure period begun?				
d. Is the written post-closure cost estimate available? 265.144				

*pplies only to disposal facilities.

Section I - USE AND MANGEMENT OF CONTAINERS (Part 265, Subpart I)

		YES	NO	NI	Remarks
1.	Are containers in good condition? 265.171	✓			
2.	Are containers compatible with waste in them? 265.172	✓			
3.	Are containers managed to prevent leaks? 265.173	✓			
4.	Are containers stored closed?	✓			
5.	Are containers inspected weekly for leaks and defects.	✓			
6.	Are ignitable and reactive wastes stored at least 15 meters (50 feet) from the facility property line? (Indicate if waste is ignitable or reactive). 265.176	✓			
7.	Are incompatible wastes stored in separate containers? (If not, the provisions of 40 CFR 265.17(b) apply). 265.177	✓			
8.	Are containers of incompatible waste separated or protected from each other by physical barriers or sufficient distance?	✓			

Section A: Scope

1. Complete this Appendix if the owner or operator of a TSD facility also generates hazardous waste that is subsequently shipped off-site for treatment, storage, or disposal.

Section B: MANIFEST REQUIREMENTS (Part 262, Subpart B)

	YES	NO	NI	Remarks
(1) Does the operator have copies of the manifest available for review? 262.40	✓			
(2) Examine manifests for shipments in past 6 months. Indicate approximate number of manifested shipments during that period.	2			
(3) Do the manifest forms examined contain the following information: (If possible, make copies of, or record information from, manifest(s) that do not contain the critical elements). 262.21				
a. Manifest document number?	✓			
b. Name, mailing address, telephone number, and EPA ID number of Generator	✓			
c. Name and EPA ID Number of Transporter(s)?	✓			
d. Name, address, and EPA ID Number Designated permitted facility and alternate facility?	✓			
e. The description of the waste(s) (DOT shipping name, DOT hazard class, DOT identification number)?	✓			
f. The total quantity of waste(s) and the type and number of containers loaded?	✓			
g. Required certification?	✓			
h. Required signatures?	✓			

(4) Reportable exceptions 262.42

a. For manifests examined in (2) (except for shipments within the last 35 days), enter the number of manifests for which the generator has NOT received a signed copy from the designated facility within 35 days of the date of shipment. —

b. For manifests indicated in (4a), enter the number for which the generator has submitted exception reports (40 CFR 262.42) to the Regional Administrator. —

STATE OF MICHIGAN

Rev. 3/81

WASTE DISPOSAL MANIFEST

☒ Act 64 Waste (HAZARDOUS) ☐ Act 136 Waste (OTHER) MI 003577

IDENTIFICATION

Generator's Name	Primary Transporter's Name	Treatment, Storage or Disposal Facility
Ethyl Corporation	Great Lakes Environmental Services	SCA Chemical Services, Inc.
Site Address: 1600 West Eight Mile Road, Ferndale, MI 48220	Transporters Address: 22077 Mound Rd., Warren, MI 48090	Facility Address: 11700 S. Stony Island Ave., Chicago, IL 60617
Phone Number: (313) 399-9600	Phone Number: (313) 758-0400	Phone Number: (312) 646-5700
Generator's Site EPA I.D. Number: MIDO411803121	Transporter's EPA I.D. Number: MIDO87747854	Facility Site EPA I.D. Number: ILDO006721121

If more than one Transporter is to be utilized, give the Name and EPA I.D. Number of each:

WASTE INFORMATION

LOT NO.	U.S. D.O.T. Shipping Name	D.O.T. Hazard Class	U.N./N.A. No.	Haz. Class Code	Container No.	Container Type	Form: Solid	Form: Liquid	Form: Gas	Form: Sludge	Weight or Volume	Units	Hazardous Waste Number
1.	Hazardous Waste, Solid, n.o.s.	ORM-E	NA 9189		40	DR	X				2200	Gal	D000
2.	Hazardous Waste, Liquid, n.o.s.	ORM-E	NA 9189		21	DR		X			1155	Gal	D001
3.	Hazardous Waste, Liquid, n.o.s.	ORM-E	NA 9189		19	DR		X			1045	Gal	D002
4.													
5.													
6.													

COMMENTS

Include Safety precautions and special handling instructions.

1. 55-gal. Fiber drums of organic waste in plastic and glass containers (Labpacks) LP1-9, 11-14, 16, 17, 19-22, 24-41, 43-45
2. 55-gal. Plastic or steel drums of flammable and toxic organic waste. B20-40
3. 55-gal. Plastic or steel drums of halogenated organic waste. G10, G12-28, P-1

GENERATOR COMPLETES

GENERATOR CERTIFICATION: I certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and U.S. EPA. I further certify that the information contained on the manifest is factual. I understand that the failure to accurately report all information requested by the manifest constitutes a violation of 1979 PA64 and/or PA136. I further understand that this manifest may be used in administrative and court proceedings.

Generator Signature ① [signature]

Date Shipped MO. DAY YEAR: 08 19 83

TRANSPORTER COMPLETES

HAULER'S CERTIFICATION: I certify acceptance of the above identified wastes for transportation. I further certify that I shall deliver the hazardous wastes, together with this manifest, only to the destination specified by the generator on this manifest. I understand that this manifest can be used in administrative and court proceedings.

Transporter Vehicle I.D. No. 1: H-830211

Subsequent Transporter Vehicle I.D. No's:

Transporter Signature ② [signature]

Subsequent transporter(s) signature(s) ③

Date(s) Received: 08 19 83

If the shipment cannot be delivered, describe the reasons for non-delivery.

TSDF COMPLETES

TSDF CERTIFICATION: I certify receipt at this facility of the above identified wastes and that this facility is licensed to accept those wastes. I also certify that the wastes were accompanied by a manifest properly certified by both the generator and hauler and that this facility is the destination indicated on the manifest. I understand that this manifest can be used in administrative and court proceedings.

TSDF Signature ④

Facility Site EPA I.D. Number

☐ Accepted ☐ Rejected

Date Received

Describe any significant discrepancies between manifest and shipment.

ALL SPILLS MUST BE REPORTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM AT 800—294-4706, 24 HOURS PER DAY AND THE NATIONAL RESPONSE CENTER AT 800—424-8802

0035779

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF HAZARDOUS WASTE MANAGEMENT
BOX 30030
LANSING, MICHIGAN 48909

WASTE CHARACTERIZATION REPORT

SECTION A. WASTE GENERATOR IDENTIFICATION INFORMATION

EPA IDENTIFICATION NUMBER: MID 041803123

BUSINESS NAME: Ethyl Corporation

ADDRESS: 1600 West Eight Mile Road

CITY: Ferndale | STATE: MI | ZIP CODE: 48220

NAME AND TITLE OF CONTACT PERSON: C. P. Jarema

TELEPHONE NUMBER: (313) 399-9600

SECTION B. COMMON NAME OF THE WASTE

ENTER TYPE OF WASTE (i.e. common name) characterized on this form and the source or process from which it was produced.

Organic Laboratory Waste - Liquid

SECTION C. LISTED HAZARDOUS WASTE

		HAZARDOUS WASTE NO.
1. If the waste is listed in tables 301 a, b, c, or d of Rule 299.6308, 299. 6309, 299.6310 or 299.6311, respectively or table 305 of Rule 299.6317, enter the hazardous waste number from the appropriate table		
2. If the waste is a discarded commercial chemical product, off-specification specie, container or spill residue of a substance listed in Table 302a, Rule 299.6312, or Table 302 b or c, Rule 299.6313 or 299.6314, respectively, enter the hazardous waste number from the applicable table		
3. If waste *contains* any substances listed in table 302 a, b, or c, Rule 299.6312, 299.6313,or 299.6314, respectively, enter their hazardous waste number(s) from the applicable table AND record the component concentrations.	COMPONENT CONCENTRATION ____ to ____ % ____ to ____ % ____ to ____ %	
4. If the waste contains viable desease-causing agents listed in table 304, Rule 299.6316, enter the hazardous waste number(s) from the table		

SECTION D. HAZARDOUS WASTE BASED ON CHARACTERISTICS

Ignitable Wastes	Test Results	Parameters	Reference
5a. Liquid flash point test (aqueous solutions containing less than 24% alcohol by volume are excluded from this test).	<60°C. ____ to ____ °c	Flash Pt. 60°c	299.6201 (c) (i)
5b. Non-liquid — Is it ignitable based on conditions stated in the reference?	☐ Yes ☐ No	See Reference	299.6201 (c) (ii)
5c. Compressed gas — is the waste a flammable compressed gas as defined in the reference?	☐ Yes ☐ No	See Reference	49 CFR § 173.300
5d. Oxidizer — Is the waste an oxidizer as defined in the reference?	☐ Yes ☐ No	See Reference	49 CRF § 173.151
5e. Enter "D001", as the hazardous waste number if the waste exceeds one or more of the parameters listed or meets the definition of a hazardous waste based on the reference			D 0 0 1

Corrosive Wastes (concentrated salt solutions are by definintion not coorosive)	Test Results	Parameters	Reference
6a. Aqueous Solution — ph test	____ ph	See Reference	299.6201 (a) (i)
6b. Liquid-Steel (type SAE 1020) corrosion test	____ mm/yr	Rate 6.35 mm/yr	299.6201 (a) (ii)
6c. Albino rabbit skin test — Is the tissue destroyed or irreversibly changed?	☐ Yes ☐ No	See Reference	229.6201 (a) (iii) & 49 CFR § 173.240
6d. Enter "D002", as the hazardous waste number if the waste exceeds one or more of the parameters listed			

Reactive wastes

7a. Is the waste normally unstable and capable of undergoing violent chemical or physical change without detonating?	☐ Yes ☒ No
7b. Does it react with water forming potentially explosive mixtures with water?	☐ Yes ☒ No
7c. When mixed with water, does it generate toxic gases, vapors, or fumes?	☐ Yes ☒ No
7d. Is it a sulfide or cyanide bearing waste which when exposed to ph conditions between 2 and 12.5, can generate toxic gasses, vapors, or fumes?	☐ Yes ☒ No
7e. Is the waste capable of detonation or explosive reaction when subjected to a strong initiating source or if heated under confinement?	☐ Yes ☒ No

— over —

0035779

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF HAZARDOUS WASTE MANAGEMENT
BOX 30030
LANSING, MICHIGAN 48909

WASTE CHARACTERIZATION REPORT

SECTION A.
WASTE GENERATOR IDENTIFICATION INFORMATION

EPA IDENTIFICATION NUMBER: MID 040803123 ← 04108 03123

BUSINESS NAME: Ethyl Corporation

ADDRESS: 1600 West Eight Mile Road

CITY: Ferndale STATE: MI ZIP CODE: 48220

NAME AND TITLE OF CONTACT PERSON: C. P. Jarema

TELEPHONE NUMBER: (313) 399-9600

SECTION B. COMMON NAME OF THE WASTE

ENTER TYPE OF WASTE (i.e. common name) characterized on this form and the source or process from which it was produced.

Organic Laboratory Waste - Solid

SECTION C. LISTED HAZARDOUS WASTE

	HAZARDOUS WASTE NO.
1. If the waste is listed in tables 301 a, b, c, or d of Rule 299.6308, 299. 6309, 299.6310 or 299.6311, respectively or table 305 of Rule 299.6317, enter the hazardous waste number from the appropriate table	
2. If the waste is a discarded commercial chemical product, off-specification specie, container or spill residue of a substance listed in Table 302a, Rule 299.6312, or Table 302 b or c, Rule 299.6313 or 299.6314, respectively, enter the hazardous waste number from the applicable table	
3. If waste *contains* any substances listed in table 302 a, b, or c, Rule 299.6312, 299.6313,or 299.6314, respectively, enter their hazardous waste number(s) from the applicable table AND record the component concentrations. (COMPONENT CONCENTRATION: ____ to ____ %)	
4. If the waste contains viable desease-causing agents listed in table 304, Rule 299.6316, enter the hazardous waste number(s) from the table	

SECTION D. HAZARDOUS WASTE BASED ON CHARACTERISTICS

	Test Results	Parameters	Reference
5. Ignitable Wastes			
5a. Liquid flash point test (aqueous solutions containing less than 24% alcohol by volume are excluded from this test).	____ to ____ °c	Flash Pt. 60°c	299.6201 (c) (i)
5b. Non-liquid — Is it ignitable based on conditions stated in the reference?	☐ Yes ☒ No	See Reference	299.6201 (c) (ii)
5c. Compressed gas — Is the waste a flammable compressed gas as defined in the reference?	☐ Yes ☒ No	See Reference	49 CFR § 173.300
5d. Oxidizer — Is the waste an oxidizer as defined in the reference?	☐ Yes ☒ No	See Reference	49 CRF § 173.151
5e. Enter "D001", as the hazardous waste number if the waste exceeds one or more of the parameters listed or meets the definition of a hazardous waste based on the reference			
6. Corrosive Wastes (concentrated salt solutions are by definintion not coorosive)	Test Results	Parameters	Reference
6a. Aqueous Solution — ph test	____ ph	See Reference	299.6201 (a) (i)
6b. Liquid-Steel (type SAE 1020) corrosion test	____ mm/yr	Rate 6.35 mm/yr	299.6201 (a) (ii)
6c. Albino rabbit skin test — Is the tissue destroyed or irreversibly changed?	☐ Yes ☒ No	See Reference	229.6201 (a) (iii) & 49 CFR § 173.240
6d. Enter "D002", as the hazardous waste number if the waste exceeds one or more of the parameters listed			

7. Reactive wastes	
7a. Is the waste normally unstable and capable of undergoing violent chemical or physical change without detonating?	☐ Yes ☒ No
7b. Does it react with water forming potentially explosive mixtures with water?	☐ Yes ☒ No
7c. When mixed with water, does it generate toxic gases, vapors, or fumes?	☐ Yes ☒ No
7d. Is it a sulfide or cyanide bearing waste which when exposed to ph conditions between 2 and 12.5, can generate toxic gasses, vapors, or fumes?	☐ Yes ☒ No
7e. Is the waste capable of detonation or explosive reaction when subjected to a strong initiating source or if heated under confinement?	☐ Yes ☒ No

— over —

This list of drum contents was sent to SCA on 8/19/8 Attn Debbie Mullen

COMBUSTIBLE CHEMICAL WASTE

"Lab Packs"

LP-1

Alkylated phenols	37.0 lbs
(eg. 2, 6-Di-tert-butyl-4-ethyl phenol)	
Alkylaromatic Amines	1.5 lb
	38.5 lbs

LP-2

Alkylaromatic acetic acid	10 lbs
Alkylated phenols	35 lbs
Hydroxy alkylaromatics (e.g. Alkyl hydroxy benzaldehyde)	23 lbs
	68 lbs

LP-3

Alkylated phenols	70.5 lbs

LP-4

Alkylated phenols	93 lbs
Alkyl alcohols (eg. Pentaerythritol)	20 lbs
Paraformaldehyde	50 lbs
	163 lbs

LP-5

Alkylated phenols	65 lbs
Fatty acids	100 lbs
	165 lbs

LP-6

Alkylated phenols	146 lbs

LP-7

Aromatic hydrocarbons (e.g. Benzophenone)	50 lbs
Fatty acids (Long Chain)	40 lbs
Alkylated phenols	20 lbs
	110 lbs

LP-8

Paraformaldehyde	75 lbs
Alkylated phenols	125 lbs
Sulfurized alkyl phenols	2 lbs
Aromatic esters, acids, ketones (e.g. benzoquinone, benzoic acid)	5 lbs
Alkylamino phenolics	3 lbs
	210 lbs*

* Total sulfur content c.a. 0.1%.

LP-9

Alkylated phenols	56 lbs
Long chain alcohols (C_{20})	45 lbs
Biphenyl	5 lbs
	106 lbs

LP-11

Dimethylphenol	50 lbs
Alkylated phenol	60 lbs
Analytical phenol samples	4 lbs
	114 lbs

LP-12

Dimethylphenol	40 lbs
Paraformaldehyde	30 lbs
Other organic lab samples	25 lbs
	95 lbs

LP-13

Dimethylphenol	40 lbs
Oil friction reduction modifier	35 lbs
Diethylchlorothiophosphates	3 lbs
	78 lbs

Total contained S - c.a. 0.06 lbs

LP-14

Brominated aromatics - lab samples	10 lbs
Organic borate esters	2 lbs
Aromatic amine derivatives	17 lbs
Solid alkylated aromatics	3 lbs
Organic phosphates	1 lb
	33 lbs

Total contained Br - c.a. 4 lbs.

LP-16

C_{20} alcohols	40 lbs
Misc. organic analytical samples	30 lbs
Methylenebis(dibutylphenols)	10 lbs
p-Bromophenol	2 lbs
Tetrabromoxylene derivative	2 lbs
Aminobromonitrobenzene	0.5 lbs
Chlorodiphenylsulfide	1 lbs
Gasoline additive	0.5 lbs
Alkylated phenols	1.5 lbs
Activated carbon catalyst	0.5 lbs
Misc. Organometallics	0.3 lbs
	88 lbs

Contained S - c.a. 0.2 lbs

Contained Br - c.a. 2.3 lbs

LP-17

Lauric acid	65 lbs
Methylbutylaniline	30 lbs
Tert-butylphenol derivatives	15 lbs
Stearic acid-based ahless dispersants	15 lbs
Phosphonitrilic chloride	3 lbs
Other organics	3 lbs
	131 lbs

LP-19

Methylenebis(dibutylphenol)	15 lbs
Sorbitol	15 lbs
Hydroxymethyl and ethyldibutylphenols	10 lbs
Dibutylbenzoquinone	10 lbs
Dicyclopentylphenol and other phenolics	35 lbs
	85 lbs

LP-20

Methylenebis(dibutylphenol) and borate ester	8 lbs
Boric acid	4 lbs
Misc. organic laboratory samples	12 lbs
Thiobis(butylcresol)	12 lbs
	36 lbs

Contained S - c.a. 1.1 lbs

LP-21

C_{20} Alcohol	16 lbs
Chlorinated aromatics	3.2 lbs
Tetrachlorobenzene	5 lbs
Aliphatic chloro compounds	0.5 lbs
Misc. organic bromo compounds	1.0 lb
Teflon molding compound	2 lbs
Boric acid	6.6 lbs
Sulfanilamide	2.0 lbs
Dilauryldithiodipropionate	2.0 lbs
Misc. organosulfur reagents	1.3 lb
Metal carboxylates and acetylacetonates	10 lbs
Alkylated aromatic amines and phenols	11 lbs
Misc. Stock Room organic chemicals	12 lbs
	73 lbs

Contained S - c.a. 0.8 lbs

LP-22

Dimethylphenol	57 lbs
Misc. phenolic antioxidants	5 lbs
Misc. phenols and anilines - samples	2 lbs
Boric acid	2 lbs
Mercaptothiazole and misc. sulfur compounds	10 lbs
Bromochlorophenol	0.5 lbs
	77 lbs

Contained S - c.a. 2. lbs

Contained Br - c.a. 0.3 lb

LP-24

Methylenebisanthranilic acid ester	75 lbs
Benzothiazole and other sulfur compounds	4 lbs
	79 lbs

Contained S - c.a. 0.8 lb

LP-25

Dimethylphenol	45 lbs
Butylphenol-formaldehyde product	15 lbs
Methylenebis(butyl-o-cresol)	5 lbs
Polyisobutylene	
Distearylthiodipropionate	10 lbs
	90 lbs

Contained S - c.a. 1.4 lbs

LP-26

Dimethylphenol	130 lbs
Misc. organosulfur compounds	1 lb
	131 lbs

Contained S - c.a. 0.2 lbs

LP-27

Phenolic antioxidant (330)	30 lbs
Spent carbon catalyst	20 lbs
Polybutadiene	15 lbs
Thiuramdisulfide and other sulfur compounds	4 lbs
	69 lbs

Contained S - c.a. 0.9 lbs

LP-28

Silicone surfactants	0.13 lbs
Alkylated phenolic derivatives (e.g. Alkyl phenoxy acetic acid)	35 lbs
Alkyl/aromatic esters and ketones (hydroxylated benzophenones, resorcinol, casting resin, vinyl butyral, etc.)	27 lbs
Alumina	18 lbs
Alkylaromatic amines (e.g. alkylated diamines)	12.5 lbs
Zinc chloride	6.20 lbs
Metal catalysts	7.75 lbs
Ferrocene	0.25 lbs
Chloroaminothiazene	5 lbs
Organic sulfur compounds	5 lbs
	~117 lbs*

* total sulfur content estimated at ~2%.

LP-29

Alkyl amides and imides	11 lbs
Aliphatic nitro compounds (e.g. nitro propanediol)	4 lbs
Alkyl hydrocarbon wax	4 lbs
Alkylated phenols	~80 lbs*
Alkyl and aromatic aldehydes and ketones (e.g. paraformaldehyde, benzoic acid)	15 lbs
	114 lbs

* contains 0.2 to 0.5% of sulfurized phenols.

LP-30

Alkylated phenols	20 lbs
Aryl acetic acid derivatives	95 lbs
	105 lbs

LP-31

2, 6-Dimethylphenol	95 lbs
Ethylene-propylene copolymer	5 lbs
Small sample bottles EPDM	5 lbs
	105 lbs

LP-32

Alkyl phenols (e.g. 2, 6-Di-tert-butylphenol)	71 lbs

LP-33

Alkyl phenols	66 lbs
Phenols	12 lbs
Cyclic carbonates	35 lbs
	113 lbs

LP-34

Metal containing compounds	75 lbs
Polyurethane prepolymers (TDI terminated polyols)	20 lbs
Alkylated phenols	22 lbs
	119 lbs

LP-35

Amines (solid)	118 lbs
Alkylated phenols	12 lbs
	130 lbs

LP-36

Phosphorous-containing organic compounds	40 lbs
Halogenated compounds	35 lbs
Alkylated phenols	15 lbs
	90 lbs

LP-37

Halogenated compounds	45 lbs
Alkyl phenols	35 lbs
	80 lbs

LP-38

Alkylated phenols	35 lbs
Sulfurized alkylated phenols	70 lbs
	105 lbs*

* Total sulfur content is estimated to be ~10%.

LP-39

Alkylated phenols	45 lbs
Nitrogen-containing compounds	47 lbs
Sulfur-containing compounds	8 lbs
	100 lbs*

* Total sulfur content is estimated to be 1.2%.

LP-40

Alkylated phenols	36 lbs
Phosphorous containing compounds	5 lbs
Monomeric and polymeric aromatic diisocyanate	15 lbs
Hydrocarbons	5 lbs
Halogen containing compounds	35 lbs
	96 lbs

LP-41

Alkylated phenols	125 lbs
Sulfur containing compounds	3 lbs
	128 lbs*

* Total sulfur content estimated to be ~0.5%.

LP-43

Alkylated phenols	12 lbs
Bromodibutylphenol	10 lbs
Phenolic antioxidant	5 lbs
Lube additives	20 lbs
Dibutyl hydroxy dimethylthiobenzamide	5 lbs
	52 lbs

Contained S - c.a. 0.6 lb

Contained Br - c.a. 1.4 lb

Dibutylphenol-formaldehyde adduct	28 lbs
Methylenebis(dibutylphenol) and its borate	8 lbs
Misc. lab. organic and analytical samples	5 lbs
Dicyclopentyl-p-cresol	5 lbs
Bisphenol-A	3 lbs
Dibutylphenols	3 lbs
Ferrocene	2 lbs
Neopentanoic acid	2 lbs
Phthalic anhydride	2 lbs
Sodium phenoxide	1 lb
Hydroquinone benzyl ether	1 lb
Docosene	1 lb
Diphenyl carbonate	1 lb
Diphenoxy ethane	1 lb
Tetrabromobisphenol-A	1 lb
Bis(pentabromophenoxy) ethane	1 lb
Thiobis(butyl cresol)	1 lb
	66 lbs

Contained Br - c.a. 1.3 lb

Contained S - c.a. 0.1 lb

Code No. _____

	Percent Composition
G-10	
Hydrocarbons	10
1, 2-Dichloroethane	10
Carbon tetrachloride	9
Alkyl halides	9
1, 2-Dichlorobenzene	7
Chloroform	6
Aryl halides	11
Acetone	5
Methylene chloride	4
Freon 113	4
1, 1, 1-Trichloroethane	12
Ethyl acetate	2
Toluene	2
Organophosphate	2
Methanol	1
Alcohol	1
Chlorobenzene	1
Others	4

Mixed Halogenated Waste

Code No. _____

P-1

	Percent Composition
Toluene	~15
Mixed organic P and Cl compounds	~85

LP-45

Diethylaniline hydrochloride	100 lbs
Lube additives	20 lbs
Xylenol	15 lbs
Trimethylpropanediol	10 lbs
Phenolic antioxidant	10 lbs
C_{16} Alcohol	15 lbs
	170 lbs

Mixed Halogenated Waste

Code 3049-003

G-12

	Percent Composition
Chlorobenzene	30
Toluene	10
Aliphatic chloro compounds	20
Mixed lab. wastes (32% Cl)	40

Code No. _____

G-13

	Percent Composition
Hydrocarbons	17
Acetone	11
Methanol	10
Chloroform	9
1, 1, 1-Trichloroethane	7
1, 1, 2, 2-Tetrachloroethane	6
Carbon tetrachloride	5
Bromocumene	4
Methylene chloride	4
Bromostyrenes	3
Chlorobenzene	3
Alkyl halides	5
Acetic acid	2
Toluene	2
1, 2-Dichloroethane	2
Tetrahydrofuran	1
Methylene bromide	1
Alkyl nitrates	1
n-Butanol	1
1, 2-Dibromoethane	1
Tetrachloroethylene	1
Others	4

Code No. _____

	Percent Composition
G-14	
Hydrocarbons	19
Dichlorobenzenes	16
Carbon tetrachloride	16
Chloroform	15
Alcohols, esters, ketones	13
Acetic acid	6
Dibromotoluenes	5
Ethylene dichloride	4
Tribromostyrenes	4
Sulfur compounds	1
Toluene	1
G-15	
Tribromocumenes	35
Dibromocumenes	20
Methylene bromide	34
Allyl Chloride	5
Toluene	3
Others	3
G-16	
Ethylene dichloride	31
Esters, alcohols, ketones	30
Mixed halogenated organics	14
Fluorinated organics	10
Chloroform	8
Tribromobenzenes	4
Others	3

Trichloroethylene	28
Misc. halogenated compounds	18
Chlorophenol	17
Phenol-boron trifluoride	5
Chloroalkanes	5
Carbon tetrachloride	4
Toluene	4
Trichlorobenzene	3
Bromoalkanes	3
Chlorotoluenes	3
Epichlorohydrin	2
Dichloroethane	2
Dibromoalkanes	2
Chloroethanol	2
Dichlorobenzene	2

Code 3049-003

	Percent Composition
G-18	
Hexane	36
Toluyl chloride	13
Chloroepoxypropane	12
Allyl chloride	10
Hydrocarbon oil	9
Propylene chlorohydrin	6
Other halogenated organics	6
Dowtherm H	4
Ethylene dichloride	2
Chloroprene	2
G-19	
Aromatic hydrocarbons	37
Dibutylchlorophosphate and analogs	17
Alkyl and aryl phosphates	17
Diethylthiochlorophosphate and analogs	14
Gear oil	8
Dibutylchloromethyl phosphonates	7

Code 3049-003

		Percent Composition
G-20		
	Fuel oil	42
	Chlorophosphate esters	16
	Alkyl phosphates	14
	Triaryl phosphates	14
	Thiophosphate esters	10
	Aromatic hydrocarbons	3
	Amino phosphates	1
G-21		
	Chlorobenzene	51
	Phenol	49
G-22		
	Chlorobenzene	52
	Phenol	32
	Cumene	16
G-23		
	Chlorobenzene	51
	Phenol	49
G-24		
	Tris(chloropropyl)phosphate	100

Code 3049-003

		Percent Composition
G-25		
	Chlorobenzene	56
	Triethylamine	44
G-26		
	Tetrachloroethane	67
	Chlorobenzene	33
G-27		
	Octene	45
	Trichloroethylene	17
	Organo phosphites and phosphates	11
	Hexane	10
	Dichlorobenzene	5
	Ethylene dichloride	4
	Acetone	4
	Carbon tetrachloride	2
	Others	2
G-28		
	Chlorobenzene	51
	Phenol	49

Mixed Organic Chemical Waste

Code No. _____

Percent Composition

	B-20	B-21	B-22	B-23	B-24	B-25	B-26	B-27	B-28	B-29	B-30
Hydrocarbons	6	37	100	33	34	72	90	100	82	100	56
Toluene	5	15		38	30						
Phenols	12	10				6	10		16		26
Nitroaromatics	14	2									
Alkyl nitrates	7										
Alkylated anilines	40	1									
Alkyl amines		16									
Amine polymer				29	36						
Acetone	5	2									
Methanol	3	3									
Alcohols		1									18
Alcohol, C_{20}						12					
Fatty acids	3										
Sulfurized oleic acid											
Succinic anhydride											
Polyisobutyl succ. acid						10					
Butyl borate		7									
Dichlorobenzene		3									
Chloroform	1										
Silicone oil											
Others	4	3							2		

Percent Composition

	B-31	B-32	B-33	B-34	B-35	B-36
Hydrocarbons	83	100	81	90	39	
Toluene						
Phenols	6			5	36	
Nitroaromatics						
Alkyl nitrates						
Alkylated anilines				1	4	94
Alkyl amines						6
Amine polymer						
Acetone				1	1	
Methanol					1	
Alcohols			13		2	
Alcohol, C_{20}						
Fatty acids					1	
Sulfurized oleic acid					6	
Succinic anhydride			6			
Polyisobutyl succ. acid	11					
Butyl borate						
Dichlorobenzene						
Chloroform						
Silicone oil				1	4	
Others				2	6	

Mixed Organic Chemical Waste

Code 3049-002
Percent Composition

	B-37	B-38	B-39	B-40
Hydrocarbons	73	18	2	2
Arom. hydrocarbons		1		
Esters, ketones, acids		17		35
Phenols		47	92	37
Aliph. amines		2		
Anilines		10	4	4
Alcohols		5		
Isocyanates	27			
Borate esters				
Ether polyols				
Ashless dispersants				
Polysuccinimides				
Silicone oils				
Others			2	22

STATE OF MICHIGAN

WASTE ISPOSAL MANIFEST

XX Act 64 Waste (HAZAR. S) ☐ Act 136 Waste (OTHER) MI 003576

IDENTIFICATION

Generator's Name	Primary Transporter's Name	Treatment, Storage or Disposal Facility
Ethyl Corporation	Great Lakes Environmental Services	SCA Chemical Services
Site Address	**Transporters Address**	**Facility Address**
1600 W. Eight Mile Road Femdale, Michigan 48220	22077 Mound Road Warren, Michigan 48090	11700 S. Stony Island Avenue Chicago, Illinois 60617
Phone Number	**Phone Number**	**Phone Number**
(313) 399-9600	(313) 758-0400	(312) 646-5700
Generator's Site EPA I.D. Number	**Transporter's EPA I.D. Number**	**Facility Site EPA I.D. Number**
MID041803123	MID087478574	ILD000672121

If more than one Transporter is to be utilized, give the Name and EPA I.D. Number of each:

WASTE INFORMATION

LOT NO.	U.S. D.O.T. Shipping Name	D.O.T. Hazard Class	U.N./N.A. No.	Haz. Class Code	Container No.	Container Type	Form: Solid	Form: Liquid	Form: Gas	Form: Sludge	Weight or Volume	Units	Hazardous Waste Number
1.	Hazardous Waste, Liquid, n.o.s.	ORM-E	NA 9189		39	DR		X			2145	Gal	D001
2.	Hazardous Waste, Liquid, n.o.s.	ORM-E	NA 9189		41	DR		X			2255	Gal	D001
3.													
4.													
5.													
6.													

COMMENTS

Include Safety precautions and special handling instructions.

1. 55 Gal. plastic or steel drums of flammable and toxic organic waste. Drum Nos. R41-R79
2. 55 Gal. plastic or steel drums of flammable and toxic organic waste. Drum Nos. B41-B81

GENERATOR COMPLETES

GENERATOR CERTIFICATION: I certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and U.S. EPA. I further certify that the information contained on the manifest is factual. I understand that the failure to accurately report all information requested by the manifest constitutes a violation of 1979 PA64 and/or PA136. I further understand that this manifest may be used in administrative and court proceedings.

Generator Signature ① Chester P. Jarema

Date Shipped MO. DAY YEAR: 9 13 83

TRANSPORTER COMPLETES

HAULER'S CERTIFICATION: I certify acceptance of the above identified wastes for transportation. I further certify that I shall deliver the hazardous wastes, together with this manifest, only to the destination specified by the generator on this manifest. I understand that this manifest can be used in administrative and court proceedings.

Transporter Vehicle I.D. No. No. 1 #830211

Subsequent Transporter Vehicle I.D. No's

Transporter Signature ② Peter L. Lari

Date(s) Received: 9 13 83

Subsequent transporter(s) signature(s) ③

If the shipment cannot be delivered, describe the reasons for non-delivery.

TSDF COMPLETES

TSDF CERTIFICATION: I certify receipt at this facility of the above identified wastes and that this facility is licensed to accept those wastes. I also certify that the wastes were accompanied by a manifest properly certified by both the generator and hauler and that this facility is the destination indicated on the manifest. I understand that this manifest can be used in administrative and court proceedings.

TSDF Signature ④

Facility Site EPA I.D. Number

☐ Accepted ☐ Rejected

Date Received

Describe any significant discrepancies between manifest and shipment.

ALL SPILLS MUST BE REPORTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM AT 800—294-4706, 24 HOURS PER DAY AND THE NATIONAL RESPONSE CENTER AT 800—424-8802

0035767

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF HAZARDOUS WASTE MANAGEMENT
BOX 30035
LANSING, MICHIGAN 48909

WASTE CHARACTERIZATION REPORT

SECTION A. WASTE GENERATOR IDENTIFICATION INFORMATION

EPA IDENTIFICATION NUMBER: MID 041803123

BUSINESS NAME: Ethyl Corporation

ADDRESS: 1600 W. Eight Mile Road

CITY: Ferndale, STATE: Michigan ZIP CODE: 48220

NAME AND TITLE OF CONTACT PERSON: C. P. Jarema

TELEPHONE NUMBER: (313) 399-9600

SECTION B. COMMON NAME OF THE WASTE

ENTER TYPE OF WASTE (i.e. common name) characterized on this form and the source or process from which it was produced.

Organic Laboratory Waste - Liquid

SECTION C. LISTED HAZARDOUS WASTE

	HAZARDOUS WASTE NO.
1. If the waste is listed in tables 301 a, b, c, or d of Rule 299.6308, 299. 6309, 299.6310 or 299.6311, respectively or table 305 of Rule 299.6317, enter the hazardous waste number from the appropriate table	
2. If the waste is a discarded commercial chemical product, off-specification specie, container or spill residue of a substance listed in Table 302a, Rule 299.6312, or Table 302 b or c, Rule 299.6313 or 299.6314, respectively, enter the hazardous waste number from the applicable table	
3. If waste *contains* any substances listed in table 302 a, b, or c, Rule 299.6312, 299.6313,or 299.6314, respectively, enter their hazardous waste number(s) from the applicable table AND record the component concentrations. (COMPONENT CONCENTRATION: ____ to ____ %)	
4. If the waste contains viable desease-causing agents listed in table 304, Rule 299.6316, enter the hazardous waste number(s) from the table	

SECTION D. HAZARDOUS WASTE BASED ON CHARACTERISTICS

Ignitable Wastes	Test Results	Parameters	Reference
5a. Liquid flash point test (aqueous solutions containing less than 24% alcohol by volume are excluded from this test).	<60°C ____ to ____ °c	Flash Pt. 60°c	299.6201 (c) (i)
5b. Non-liquid — Is it ignitable based on conditions stated in the reference?	☐ Yes ☐ No	See Reference	299.6201 (c) (ii)
5c. Compressed gas — Is the waste a flammable compressed gas as defined in the reference?	☐ Yes ☐ No	See Reference	49 CFR § 173.300
5d. Oxidizer — Is the waste an oxidizer as defined in the reference?	☐ Yes ☐ No	See Reference	49 CRF § 173.151
5e. Enter "D001", as the hazardous waste number if the waste exceeds one or more of the parameters listed or meets the definition of a hazardous waste based on the reference			D001

6. Corrosive Wastes (concentrated salt solutions are by definintion not coorosive)	Test Results	Parameters	Reference
6a. Aqueous Solution — ph test	____ ph	See Reference	299.6201 (a) (i)
6b. Liquid-Steel (type SAE 1020) corrosion test	____ mm/yr	Rate 6.35 mm/yr	299.6201 (a) (ii)
6c. Albino rabbit skin test — Is the tissue destroyed or irreversibly changed?	☐ Yes ☐ No	See Reference	229.6201 (a) (iii) & 49 CFR § 173.240
6d. Enter "D002", as the hazardous waste number if the waste exceeds one or more of the parameters listed			

7. Reactive wastes

7a. Is the waste normally unstable and capable of undergoing violent chemical or physical change without detonating?	☐ Yes ☒ No
7b. Does it react with water forming potentially explosive mixtures with water?	☐ Yes ☒ No
7c. When mixed with water, does it generate toxic gases, vapors, or fumes?	☐ Yes ☒ No
7d. Is it a sulfide or cyanide bearing waste which when exposed to ph conditions between 2 and 12.5, can generate toxic gasses, vapors, or fumes?	☐ Yes ☒ No
7e. Is the waste capable of detonation or explosive reaction when subjected to a strong initiating source or if heated under confinement?	☐ Yes ☒ No

— over —

7f. Is the waste capable of detonation or explosive decomposition or reaction at standard temperature and pressure? ☐ Yes ☐ No

7g. Is the waste a forbidden explosive as defined in 49 CFR § 173.51? ☐ Yes ☒ No

7h. Is the waste a Class A explosive as defined in 49 CFR § 173.53? ☐ Yes ☒ No

7i. Is the waste a Class B explosive as defined in 49 CFR § 173.88? ☐ Yes ☒ No

7j. If the answer to any of the questions 7a through 7i is yes, enter "D003", as the hazardous waste number. ____

8. EPA Toxic Wastes — Upon obtaining an extract of the waste as described on 40 CFR § 261, Appendix II, test for the components listed in Table 303, Rule 299.6315. For each component material that exceeds the extract concentration listed in the table, enter the hazardous waste number(s) and the tested concentration(s):

Hazardous Waste No.	Concentration
____	____ mg/l
____	____ mg/l
____	____ mg/l
____	____ mg/l

SECTION E. PHYSICAL STATE AT 25°

9. What is the average density of the material? 8 lbs/gal

10. Solids: Does the material produce dust if exposed to air movement? ☐ Yes ☐ No

11. Liquid — Sludge: What is the percent solids? <1 %
Do the solids settle out? ☐ Yes ☒ No
Can the material be pumped? ☒ Yes ☐ No
Can the material be poured.? ☒ Yes ☐ No

12. Liquid: At what temperature does it freeze? <Zero °C

13. Gases: What is the maximum pressure of the container? ____ PSIG

SECTION F. OTHER INFORMATION:

14. What is the maximum quantity of this waste that is generated per month? ____ KG

15. If the only hazardous waste numbers listed on this form are the numbers that have been entered for Item 3, enter the numbers in the space provided if the component concentration (Item 3) and the quantity of the waste generated (Item 14) cause the waste to be considered as a notification waste based on R 299.6201 (1) (g) (iii) and (iv). *figure A* of R299.6201(2), or *figure B* of R299.6201 (3):
NOTE: If the hazardous waste numbers that have been entered under Item 3, begin with the letter "P" use *figure A* to determine if it is a notification waste. If the number begins or ends with the letter "U" use *figure B*.

16. Are the hazardous wastes listed on this form disposed of onsite? ☐ Yes ☐ No

17. If the waste is a hazardous waste, is it exempt under the small quantity exemptions pursuant to R 299.6203(2) and (3)? ☐ Yes ☒ No

18. If tests were conducted in the evaluation of the waste, all of the following information shall be transmitted to the Department of Natural Resources with the waste characterization Record:
(a) The sampling procedure and the reasons for determining that the sample is representative of the waste
(b) The results of all tests conducted.
(c) The accuracy and precision of any test conducted.

SECTION G. U.S. DEPT. OF TRANSPORTATION REPORTING REQUIREMENTS

Hazardous Materials Description and Shipping Name: Hazardous Waste, Liquid, n.o.s.

Hazard Class: ORM-E

UN/DA ID No.: NA 9189

Special Handling and Shipping Requirements:

If the waste is hazardous and not exempt or excluded from management, or is a notification waste, send the completed form to the Department of Natural Resources, Office of Hazardous Waste Management, P.O. Box 30038, Lansing, MI 48909.

Chester P. Jarema
C. P. Jarema — Signature

Analytical Chemist — Title

9-13-83 — Date

Mixed Organic Chemical Waste

Code 3049-002

Percent Composition

	B-41	B-42	B-43	B-44	B-45	B-46	B-47	B-48
Hydrocarbons	14	10	76	34	36	22	65	39
Arom. hydrocarbons				1		16		15
Esters, ketones, acids				7	5		11	21
Phenols		24	9	27	4	40	17	2
Aliph. amines	1		15			5	1	2
Anilines	85					12		4
Alcohols		51						
Isocyanates								
Borate esters		9						3
Ether polyols				12				13
Ashless dispersants					23	2	3	
Polysuccinimides					11			
Silicone oils				11	21			
Others		6		8		3	3	1

Code 3.19-002

	B-49	B-50	B-51	B-52	B-53	B-54	B-55	B-56	B-57	B-58	B-59	B-60
Hydrocarbons	75	77	35	58	77	24		16	46			
Arom. hydrocarbons			2	23		31	9	20				
Esters, ketones, acids	10		14		8	15	14	49	3			
Phenols	3	23					44	2	1			
Aliph. amines	4		21		1	6		1	11			
Anilines	2		6			19			14	100	100	100
Alcohols			17	18		4	27	2	20			
Borate esters			5									
Silicone oils				1	13			8	1			
Nitroalkanes							4	2				
Mercaptans							2					
Others	6		2		1	1			4			

Code 3049-002

	B-61	B-62	B-63	B-64	B-65	B-66	B-67	B-68	B-69	B-70	B-71	B-72
Hydrocarbons	17	12				48	10		20	33	58	
Arom. hydrocarbons	3	14				5				8	13	
Esters, acids, ketones	34	28									2	
Phenols	1	14	100			11	90	16			1	100
Aliph. amines	17					9						
Anilines	7					6					5	
Alcohols	13	8				3		65	41	26		
Mercaptans & sulfides								19	10	18		
Arom. aldehydes		5										
Phosphites & Phosphates		2									7	
Propylene chlorohydrin		6										
Detergents				100								
Surfactants					100	2						
Naphthenates						2						
Silicone oil						4			4			
Alkyl nitrates						4						
Ethers											9	
Others	8	11				6			25	15	5	

	B-73	B-74	B-75	B-76	B-77	B-78	B-79	B-80	B-81
Hydrocarbons		68	76		3			54	60
Arom. Hydrocarbons				45	76			4	
Esters, acids, ketones									
Phenols				55			100		
Allph. amines						13			
Alcohols						70			
Dodecyl succ. anhyd.									40
Surfactants									
Silicone oil									
Arom. phosphates		10							
Propyl phosphazene	58								
Chlorobenzene	42								
Dowtherm								42	
Mercaptans		14							
Toluene diisocyanate			24						
Mn gasoline additive					5				
Water						12			
Others		8			16	5			

Percent Composition

Code No. _____

	R-41	R-42	R-43	R-44	R-45	R-46	R-47	R-48	R-49	R-50	R-51	R-52
Hydrocarbons	8	25	20	16	33	36	43	39	20	21		15
Toluene	3	5	3	18	11	13	21	21	18	5		14
Cyclohexane		1	2		1		2	14	1			
Methanol	1	2	3		3	2	1					1
sec-Butanol				33	13		5					
Alcohols	2	2	1		4	7		1	3	1		11
Acetone	80	56	65	29	29	36	19	20	53	63		40
Ethyl esters	2			1	1	2	5	1	1	1		2
Acetaldehyde	1	1										
Ethyl ether	2	2	1	1		1		1	2	2		1
Tetrahydrofuran		1										
Pyridine				1	1							
Toluenediamines		2	1							3		
Phenols			1							1		2
Alkyl anilines						1	1			3		3
Styrene											100	
Mn Fuel Additive												10
Carbon Disulfide						1						
Others	2	3	3	1	2	1	3	3	2			1

	R-53	R-54	R-55	R-56	R-57	R-58	R-59	R-60	R-61	R-62	R-63
Hydrocarbons	69	48	22	41	16	50	49	31	11	32	62
Toluene	8	21	4	8	7	50	19	17	26	15	16
Cyclohexane											
Methanol		2	4	1	3		3	3	1	6	
sec-Butanol	5			5							
Alcohols			6	2				1	4	14	7
Acetone	8	19	58	15	64		13	39	52	29	5
Ethyl esters	3	8	1	5					1		1
Acetaldehyde				1					1		2
Ethyl ether				5	2					1	
Tetrahydrofuran					2					1	
Pyridine	3		1								
Toluenediamines	1		1								
Phenols	2		1	3			6	3			
Alkyl anilines			2	8				1			2
Styrene											
Mn Fuel Additive								1			
Carbon Disulfide								1			
Others	1			6	6		10	3	4	2	5

	R-64	R-65	R-66
Hydrocarbons	14	60	11
Toluene	5	10	56
Methanol	8		
Alcohols	24	2	2
Aliph. esters, ketones	17	16	6
Phenols	3	1	4
Alkyl nitrates	10	1	
Anilines	3	1	
Alkyl amines	1	6	14
Borate esters			6
Oligomer oils	12		
Mn Fuel Additive	2		
Dimethyl sulfoxide	1		
Others		3	1

Code 3049-001

Percent Composition

	R-67	R-68	R-69	R-70	R-71	R-72	R-73					
Hydrocarbons		11	81	52	95	99						
Arom. hydrocarbons	49	5	4	15	5	1						
Ketones, esters, acids	28	44	10	9								
Alkylated phenols		2	3									
Alkylated anilines	3											
Aliph. amines	10		1									
Alcohols	7	12		21								
Nitro aromatics	1											
Isocyanates	1											
Mercaptans			1									
Borate esters				3								
Methylal		2					100					
Ethers		22										
Others	1	2										

Percent Composition

	R-74	R-75	R-76	R-77	R-78	R-79
Hydrocarbons	100	50	51		100	68
Arom. Hydrocarbons		8	20	79		2
Ketones, esters, acids		7	2	3		
Aldehydes		3				
Alcohols		16	12			
Aliph. amines		4				
Ethers		8	6			30
Nitroalkanes		2				
Others		2	9	18		

Rev. 3/81

STATE OF MICHIGAN

WASTE DISPOSAL MANIFEST

☒ Act 64 Waste (HAZARDOUS) ☐ Act 136 Waste (OTHER) MI 0100118

IDENTIFICATION

Generator's Name	Primary Transporter's Name	Treatment, Storage or Disposal Facility
Ethyl Corporation	Great Lakes Environmental Services	SCA Chemical Services, Inc.
Site Address	**Transporters Address**	**Facility Address**
1600 W. Eight Mile Road Femdale, Michigan 48220	22077 Mound Road Warren, Michigan 48090	1135 Balmer Road Model City, New York 14107
Phone Number	**Phone Number**	**Phone Number**
(313) 399-9600	(313) 758-0400	(716) 754-8231
Generator's Site EPA I.D. Number	**Transporter's EPA I.D. Number**	**Facility Site EPA I.D. Number**
MID041180312 3	MID087478574	NYD049836791

If more than one Transporter is to be utilized, give the Name and EPA I.D. Number of each:

GENERATOR COMPLETES — WASTE INFORMATION

LOT NO.	U.S. D.O.T. Shipping Name	D.O.T. Hazard Class	U.N./N.A. No.	Haz. Class Code	Container No.	Container Type	Form: Solid	Form: Liquid	Form: Gas	Form: Sludge	Weight or Volume	Units	Hazardous Waste Number
1.	Hazardous Waste, Solid, NOS	ORM-E	NA 9189		8	DR	X				340	Gal	D000
2.	Hazardous Waste, Liquid, NOS	ORM-E	NA 9189		2	DR		X			110	Gal	D001
3.	Hazardous Waste, Liquid, NOS	ORM-E	NA 9189		1	DR		X			55	Gal	D003
4.	Hazardous Waste, Liquid, NOS	ORM-E	NA 9189		1	DR		X			55	Gal	D002
5.	Hazardous Waste, Solid, NOS	ORM-E	NA 9181		1	DR	X				55	Gal	D008
6.	Hazardous Waste, Solid, NOS	ORM-E	NA 9181		4	DR	X				120	Gal	D009

COMMENTS — Include Safety precautions and special handling instructions.

1) Lab-packs of inorganic and brominated organic chemicals; 2) Mixed organic liquid waste (containing P and Cl); 3) Phosphorus oxychloride; 4) Phosphorus trichloride; 5) Lead halide/oxide deposits; 6) Copper sulfide ore concentrate.

GENERATOR CERTIFICATION: I certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and U.S. EPA. I further certify that the information contained on the manifest is factual. I understand that the failure to accurately report all information requested by the manifest constitutes a violation of 1979 PA64 and/or PA136. I further understand that this manifest may be used in administrative and court proceedings.

Generator Signature ① [signature] Date Shipped MO. DAY YEAR 09 21 83

TRANSPORTER COMPLETES

HAULER'S CERTIFICATION: I certify acceptance of the above identified wastes for transportation. I further certify that I shall deliver the hazardous wastes, together with this manifest, only to the destination specified by the generator on this manifest. I understand that this manifest can be used in administrative and court proceedings.

Transporter Vehicle I.D. No. No. 1 H830211

Subsequent Transporter Vehicle I.D. No's

Transporter Signature ② [signature] Date(s) Received 09 21 83

Subsequent transporter(s) signature(s) ③

If the shipment cannot be delivered, describe the reasons for non-delivery.

TSDF COMPLETES

TSDF CERTIFICATION: I certify receipt at this facility of the above identified wastes and that this facility is licensed to accept those wastes. I also certify that the wastes were accompanied by a manifest properly certified by both the generator and hauler and that this facility is the destination indicated on the manifest. I understand that this manifest can be used in administrative and court proceedings.

TSDF Signature ④

Facility Site EPA I.D. Number

☐ Accepted ☐ Rejected

Date Received

Describe any significant discrepancies between manifest and shipment.

ALL SPILLS MUST BE REPORTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM AT 800—294-4706, 24 HOURS PER DAY AND THE NATIONAL RESPONSE CENTER AT 800—424-8802

0100118

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF HAZARDOUS WASTE MANAGEMENT
BOX 30030
LANSING, MICHIGAN 48909

WASTE CHARACTERIZATION REPORT

SECTION A. WASTE GENERATOR IDENTIFICATION INFORMATION

EPA IDENTIFICATION NUMBER: MID 041803123

BUSINESS NAME: Ethyl Corporation

ADDRESS: 1600 W. Eight Mile Road

CITY: Ferndale, STATE: Michigan, ZIP CODE: 48220

NAME AND TITLE OF CONTACT PERSON: Kestutis A. Keblys, Assist. Director, A&IR

TELEPHONE NUMBER: (313) 399-9600

SECTION B. COMMON NAME OF THE WASTE

ENTER TYPE OF WASTE (i.e. common name) characterized on this form and the source or process from which it was produced.
Copper Sulfide Ore Concentrate (4 drums)

SECTION C. LISTED HAZARDOUS WASTE

	HAZARDOUS WASTE NO.
1. If the waste is listed in tables 301 a, b, c, or d of Rule 299.6308, 299. 6309, 299.6310 or 299.6311, respectively or table 305 of Rule 299.6317, enter the hazardous waste number from the appropriate table	
2. If the waste is a discarded commercial chemical product, off-specification specie, container or spill residue of a substance listed in Table 302a, Rule 299.6312, or Table 302 b or c, Rule 299.6313 or 299.6314, respectively, enter the hazardous waste number from the applicable table	
3. If waste contains any substances listed in table 302 a, b, or c, Rule 299.6312, 299.6313.or 299.6314, respectively, enter their hazardous waste number(s) from the applicable table AND record the component concentrations. (COMPONENT CONCENTRATION: ____ to ____ %)	
4. If the waste contains viable desease-causing agents listed in table 304, Rule 299.6316, enter the hazardous waste number(s) from the table	

SECTION D. HAZARDOUS WASTE BASED ON CHARACTERISTICS

Ignitable Wastes	Test Results	Parameters	Reference
5a. Liquid flash point test (aqueous solutions containing less than 24% alcohol by volume are excluded from this test).	____ to ____ °c	Flash Pt. 60°c	299.6201 (c) (i)
5b. Non-liquid — is it ignitable based on conditions stated in the reference?	☐ Yes ☒ No	See Reference	299.6201 (c) (ii)
5c. Compressed gas — is the waste a flammable compressed gas as defined in the reference?	☐ Yes ☐ No	See Reference	49 CFR § 173.300
5d. Oxidizer — is the waste an oxidizer as defined in the reference?	☐ Yes ☒ No	See Reference	49 CRF § 173.151
5e. Enter "D001", as the hazardous waste number if the waste exceeds one or more of the parameters listed or meets the definition of a hazardous waste based on the reference			

6. Corrosive Wastes (concentrated salt solutions are by definintion not coorosive)	Test Results	Parameters	Reference
6a. Aqueous Solution — ph test	____ ph	See Reference	299.6201 (a) (i)
6b. Liquid-Steel (type SAE 1020) corrosion test	____ mm/yr	Rate 6.35 mm/yr	299.6201 (a) (ii)
6c. Albino rabbit skin test — is the tissue destroyed or irreversibly changed?	☐ Yes ☐ No	See Reference	229.6201 (a) (iii) & 49 CFR § 173.240
6d. Enter "D002", as the hazardous waste number if the waste exceeds one or more of the parameters listed			

7. Reactive wastes

7a. Is the waste normally unstable and capable of undergoing violent chemical or physical change without detonating?	☐ Yes ☒ No
7b. Does it react with water forming potentially explosive mixtures with water?	☐ Yes ☒ No
7c. When mixed with water, does it generate toxic gases, vapors, or fumes?	☐ Yes ☒ No
7d. Is it a sulfide or cyanide bearing waste which when exposed to ph conditions between 2 and 12.5, can generate toxic gasses, vapors, or fumes?	☒ Yes ☐ No
7e. Is the waste capable of detonation or explosive reaction when subjected to a strong initiating source or if heated under confinement?	☐ Yes ☒ No

— over —

7f. Is the waste capable of detonation or explosive decomposition or reaction at standard temperature and pressure? ☐ Yes ☒ No

7g. Is the waste a forbidden explosive as defined in 49 CFR § 173.51? ☐ Yes ☒ No

7h. Is the waste a Class A explosive as defined in 49 CFR § 173.53? ☐ Yes ☒ No

7i. Is the waste a Class B explosive as defined in 49 CFR § 173.88? ☐ Yes ☒ No

7j. If the answer to any of the questions 7a through 7i is yes, enter "D003", as the hazardous waste number. D003

8. EPA Toxic Wastes — Upon obtaining an extract of the waste as described on 40 CFR § 261, Appendix II, test for the components listed in Table 303, Rule 299.6315. For each component material that exceeds the extract concentration listed in the table, enter the hazardous waste number(s) and the tested concentration(s):

Hazardous Waste No.	Concentration
	mg/l
	mg/l
	mg/l
	mg/l

SECTION E. PHYSICAL STATE AT 25°

9. What is the average density of the material? 2.8

10. Solids: Does the material produce dust if exposed to air movement? ☒ Yes ☐ No

11. Liquid — Sludge: What is the percent solids? _____ %
Do the solids settle out? ☐ Yes ☐ No
Can the material be pumped? ☐ Yes ☐ No
Can the material be poured.? ☐ Yes ☐ No

12. Liquid: At what temperature does it freeze? _____ °C

13. Gases: What is the maximum pressure of the container? _____ PSIG

SECTION F. OTHER INFORMATION:

14. What is the maximum quantity of this waste that is generated per month? one time kg.

15. If the only hazardous waste numbers listed on this form are the numbers that have been entered for Item 3, enter the numbers in the space provided if the component concentration (Item 3) and the quantity of the waste generated (Item 14) cause the waste to be considered as a notification waste based on R 299.6201 (1) (g) (iii) and (iv), *figure A* of R299.6201(2), or *figure B* of R299.6201 (3):
NOTE: If the hazardous waste numbers that have been entered under Item 3, begin with the letter "P" use *figure A* to determine if it is a notification waste. If the number begins or ends with the letter "U" use *figure B*.

16. Are the hazardous wastes listed on this form disposed of onsite? ☐ Yes ☒ No

17. If the waste is a hazardous waste, is it exempt under the small quantity exemptions pursuant to R 299.6203(2) and (3)? ☐ Yes ☒ No

18. If tests were conducted in the evaluation of the waste, all of the following information shall be transmitted to the Department of Natural Resources with the waste characterization Record:
(a) The sampling procedure and the reasons for determining that the sample is representative of the waste
(b) The results of all tests conducted.
(c) The accuracy and precision of any test conducted.

SECTION G. U.S. DEPT. OF TRANSPORTATION REPORTING REQUIREMENTS

Hazardous Materials Description and Shipping Name
Hazardous Waste - Solid, N.O.S.

Hazard Class
ORM-E

UN/DA ID No.
NA 9181

Special Handling and Shipping Requirements

If the waste is hazardous and not exempt or excluded from management, or is a notification waste, send the completed form to the Department of Natural Resources, Office of Hazardous Waste Management, P.O. Box 30038, Lansing, MI 48909.

Kestutis A. Keblys
Signature

Assist. Director, A&IR
Title

9-21-83
Date

0100118

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF HAZARDOUS WASTE MANAGEMENT
BOX 30030
LANSING, MICHIGAN 48909

WASTE CHARACTERIZATION REPORT

SECTION A.
WASTE GENERATOR IDENTIFICATION INFORMATION

EPA IDENTIFICATION NUMBER: MID 041803123

BUSINESS NAME: Ethyl Corporation

ADDRESS: 1600 W. Eight Mile Road

CITY: Ferndale, STATE: Michigan, ZIP CODE: 48220

NAME AND TITLE OF CONTACT PERSON: Kestutis A. Keblys, Assist. Director, A&IR

TELEPHONE NUMBER: (313) 399-9600

SECTION B. COMMON NAME OF THE WASTE

ENTER TYPE OF WASTE (i.e. common name) characterized on this form and the source or process from which it was produced.

Lead halide/oxide deposits from automotive traps (one drum)

SECTION C. LISTED HAZARDOUS WASTE

	HAZARDOUS WASTE NO.
1. If the waste is listed in tables 301 a, b, c, or d of Rule 299.6306, 299. 6309, 299.6310 or 299.6311, respectively or table 305 of Rule 299.6317, enter the hazardous waste number from the appropriate table	
2. If the waste is a discarded commercial chemical product, off-specification specie, container or spill residue of a substance listed in Table 302a, Rule 299.6312, or Table 302 b or c, Rule 299.6313 or 299.6314, respectively, enter the hazardous waste number from the applicable table	
3. If waste *contains* any substances listed in table 302 a, b, or c, Rule 299.6312, 299.6313 or 299.6314, respectively, enter their hazardous waste number(s) from the applicable table AND record the component concentrations. (COMPONENT CONCENTRATION: ____ to ____ %)	
4. If the waste contains viable desease-causing agents listed in table 304, Rule 299.6316, enter the hazardous waste number(s) from the table	

SECTION D. HAZARDOUS WASTE BASED ON CHARACTERISTICS

	Test Results	Parameters	Reference
5. Ignitable Wastes			
5a. Liquid flash point test (aqueous solutions containing less than 24% alcohol by volume are excluded from this test).	____ to ____ °c	Flash Pt. 60°c	299.6201 (c) (i)
5b. Non-liquid — is it ignitable based on conditions stated in the reference?	☐ Yes ☒ No	See Reference	299.6201 (c) (ii)
5c. Compressed gas — is the waste a flammable compressed gas as defined in the reference?	☐ Yes ☐ No	See Reference	49 CFR § 173.300
5d. Oxidizer — is the waste an oxidizer as defined in the reference?	☐ Yes ☒ No	See Reference	49 CRF § 173.151
5e. Enter "D001", as the hazardous waste number if the waste exceeds one or more of the parameters listed or meets the definition of a hazardous waste based on the reference			
6. Corrosive Wastes (concentrated salt solutions are by definintion not coorosive)	Test Results	Parameters	Reference
6a. Aqueous Solution — ph test	____ ph	See Reference	299.6201 (a) (i)
6b. Liquid-Steel (type SAE 1020) corrosion test	____ mm/yr	Rate 6.35 mm/yr	299.6201 (a) (ii)
6c. Albino rabbit skin test — is the tissue destroyed or irreversibly changed?	☐ Yes ☒ No	See Reference	229.6201 (a) (iii) & 49 CFR § 173.240
6e. Enter "D002", as the hazardous waste number if the waste exceeds one or more of the parameters listed			

7. Reactive wastes

7a. Is the waste normally unstable and capable of undergoing violent chemical or physical change without detonating?	☐ Yes ☒ No
7b. Does it react with water forming potentially explosive mixtures with water?	☐ Yes ☒ No
7c. When mixed with water, does it generate toxic gases, vapors, or fumes?	☐ Yes ☒ No
7d. Is it a sulfide or cyanide bearing waste which when exposed to ph conditions between 2 and 12.5, can generate toxic gasses, vapors, or fumes?	☐ Yes ☒ No
7e. Is the waste capable of detonation or explosive reaction when subjected to a strong initiating source or if heated under confinement?	☐ Yes ☒ No

— over —

7f. Is the waste capable of detonation or explosive decomposition or reaction at standard temperature and pressure? ☐ Yes ☒ No

7g. Is the waste a forbidden explosive as defined in 49 CFR § 173.51? ☐ Yes ☒ No

7h. Is the waste a Class A explosive as defined in 49 CFR § 173.53? ☐ Yes ☒ No

7i. Is the waste a Class B explosive as defined in 49 CFR § 173.88? ☐ Yes ☒ No

7j. If the answer to any of the questions 7a through 7i is yes, enter "D003", as the hazardous waste number. ____

8. EPA Toxic Wastes — Upon obtaining an extract of the waste as described on 40 CFR § 261, Appendix II, test for the components listed in Table 303, Rule 299.6315. For each component material that exceeds the extract concentration listed in the table, enter the hazardous waste number(s) and the tested concentration(s):

	Hazardous Waste No.	Concentration
	____	____ mg/l
	____	____ mg/l
	____	____ mg/l
	____	____ mg/l

SECTION E. PHYSICAL STATE AT 25°

9. What is the average density of the material? 2.5

10. Solids: Does the material produce dust if exposed to air movement? ☒ Yes ☐ No

11. Liquid — Sludge: What is the percent solids? ____ %
Do the solids settle out? ☐ Yes ☐ No
Can the material be pumped? ☐ Yes ☐ No
Can the material be poured.? ☐ Yes ☐ No

12. Liquid: At what temperature does it freeze? ____ °C

13. Gases: What is the maximum pressure of the container? ____ PSIG

SECTION F. OTHER INFORMATION:

14. What is the maximum quantity of this waste that is generated per month? one time ____ kg.

15. If the only hazardous waste numbers listed on this form are the numbers that have been entered for Item 3, enter the numbers in the space provided if the component concentration (Item 3) and the quantity of the waste generated (Item 14) cause the waste to be considered as a notification waste based on R 299.6201 (1) (g) (iii) and (iv), *figure A* of R299.6201(2), or *figure B* of R299.6201 (3): ____

NOTE: If the hazardous waste numbers that have been entered under Item 3, begin with the letter "P" use *figure A* to determine if it is a notification waste. If the number begins or ends with the letter "U" use *figure B*.

16. Are the hazardous wastes listed on this form disposed of onsite? ☐ Yes ☒ No

17. If the waste is a hazardous waste, is it exempt under the small quantity exemptions pursuant to R 299.6203(2) and (3)? ☐ Yes ☒ No

18. If tests were conducted in the evaluation of the waste, all of the following information shall be transmitted to the Department of Natural Resources with the waste characterization Record:

(a) The sampling procedure and the reasons for determining that the sample is representative of the waste

(b) The results of all tests conducted.

(c) The accuracy and precision of any test conducted.

SECTION G. U.S. DEPT. OF TRANSPORTATION REPORTING REQUIREMENTS

Hazardous Materials Description and Shipping Name: Hazardous Waste, Solid, N.O.S.

Hazard Class: ORM-E

UN/DA ID No.: NA 9181

Special Handling and Shipping Requirements:

If the waste is hazardous and not exempt or excluded from management, or is a notification waste, send the completed form to the Department of Natural Resources, Office of Hazardous Waste Management, P.O. Box 30038, Lansing, MI 48909.

Kestutis A. Keblys Signature — Assistant Director, A&IR Title — 9-21-83 Date

0100118

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF HAZARDOUS WASTE MANAGEMENT
BOX 30035
LANSING, MICHIGAN 48909

WASTE CHARACTERIZATION REPORT

SECTION A. WASTE GENERATOR IDENTIFICATION INFORMATION

EPA IDENTIFICATION NUMBER: MID 041803123

BUSINESS NAME: Ethyl Corporation

ADDRESS: 1600 W. Eight Mile Road

CITY: Ferndale, STATE: Michigan, ZIP CODE: 48220

NAME AND TITLE OF CONTACT PERSON: Kestutis A. Keblys, Assist. Director, A&IR

TELEPHONE NUMBER: (313) 399-9600

SECTION B. COMMON NAME OF THE WASTE

ENTER TYPE OF WASTE (i.e. common name) characterized on this form and the source or process from which it was produced.

Phosphorus Trichloride (one drum)

SECTION C. LISTED HAZARDOUS WASTE

	HAZARDOUS WASTE NO.
1. If the waste is listed in tables 301 a, b, c, or d of Rule 299.6308, 299. 6309, 299.6310 or 299.6311, respectively or table 305 of Rule 299.6317, enter the hazardous waste number from the appropriate table	
2. If the waste is a discarded commercial chemical product, off-specification specie, container or spill residue of a substance listed in Table 302a. Rule 299.6312, or Table 302 b or c, Rule 299.6313 or 299.6314, respectively, enter the hazardous waste number from the applicable table	
3. If waste contains any substances listed in table 302 a, b, or c, Rule 299.6312, 299.6313,or 299.6314, respectively, enter their hazardous waste number(s) from the applicable table AND record the component concentrations. (COMPONENT CONCENTRATION: ____ to ____ %)	
4. If the waste contains viable desease-causing agents listed in table 304, Rule 299.6316, enter the hazardous waste number(s) from the table	

SECTION D. HAZARDOUS WASTE BASED ON CHARACTERISTICS

	Test Results	Parameters	Reference
Ignitable Wastes			
5a. Liquid flash point test (aqueous solutions containing less than 24% alcohol by volume are excluded from this test).	>60° ____ to ____ °c	Flash Pt. 60°c	299.6201 (c) (i)
5b. Non-liquid — is it ignitable based on conditions stated in the reference?	☐ Yes ☐ No	See Reference	299.6201 (c) (ii)
5c. Compressed gas — is the waste a flammable compressed gas as defined in the reference?	☐ Yes ☐ No	See Reference	49 CFR § 173.300
5d. Oxidizer — is the waste an oxidizer as defined in the reference?	☐ Yes ☒ No	See Reference	49 CRF § 173.151
5e. Enter "D001", as the hazardous waste number if the waste exceeds one or more of the parameters listed or meets the definition of a hazardous waste based on the reference			
6. Corrosive Wastes (concentrated salt solutions are by definintion not coorosive)	Test Results	Parameters	Reference
6a. Aqueous Solution — ph test	1.0 ph	See Reference	299.6201 (a) (i)
6b. Liquid-Steel (type SAE 1020) corrosion test	____ mm/yr	Rate 6.35 mm/yr	299.6201 (a) (ii)
6c. Albino rabbit skin test — Is the tissue destroyed or irreversibly changed?	☒ Yes ☐ No	See Reference	229.6201 (a) (iii) & 49 CFR § 173.240
6d. Enter "D002", as the hazardous waste number if the waste exceeds one or more of the parameters listed			D002

7. Reactive wastes

7a. Is the waste normally unstable and capable of undergoing violent chemical or physical change without detonating?	☐ Yes ☒ No
7b. Does it react with water forming potentially explosive mixtures with water?	☐ Yes ☒ No
7c. When mixed with water, does it generate toxic gases, vapors, or fumes?	☒ Yes ☐ No
7d. Is it a sulfide or cyanide bearing waste which when exposed to ph conditions between 2 and 12.5, can generate toxic gasses, vapors, or fumes?	☐ Yes ☒ No
7e. Is the waste capable of detonation or explosive reaction when subjected to a strong initiating source or if heated under confinement?	☐ Yes ☒ No

— over —

7f. Is the waste capable of detonation or explosive decomposition or reaction at standard temperature and pressure? ☐ Yes ☒ No

7g. Is the waste a forbidden explosive as defined in 49 CFR § 173.51? ☐ Yes ☒ No

7h. Is the waste a Class A explosive as defined in 49 CFR § 173.53? ☐ Yes ☒ No

7i. Is the waste a Class B explosive as defined in 49 CFR § 173.88? ☐ Yes ☒ No

7j. If the answer to any of the questions 7a through 7i is yes, enter "D003", as the hazardous waste number. D003

8. EPA Toxic Wastes — Upon obtaining an extract of the waste as described on 40 CFR § 261, Appendix II, test for the components listed in Table 303, Rule 299.6315. For each component material that exceeds the extract concentration listed in the table, enter the hazardous waste number(s) and the tested concentration(s):	Hazardous Waste No.	Concentration
		mg/l
		mg/l
		mg/l
		mg/l

SECTION E. PHYSICAL STATE AT 25°

9. What is the average density of the material? 1.4

10. Solids: Does the material produce dust if exposed to air movement? ☐ Yes ☐ No

11. Liquid — Sludge: What is the percent solids? ____ %
Do the solids settle out? ☐ Yes ☐ No
Can the material be pumped? ☐ Yes ☐ No
Can the material be poured.? ☐ Yes ☐ No

12. Liquid: At what temperature does it freeze? 0 °C

13. Gases: What is the maximum pressure of the container? ____ PSIG

SECTION F. OTHER INFORMATION:

14. What is the maximum quantity of this waste that is generated per month? one time kg.

15. If the only hazardous waste numbers listed on this form are the numbers that have been entered for Item 3, enter the numbers in the space provided if the component concentration (Item 3) and the quantity of the waste generated (Item 14) cause the waste to be considered as a notification waste based on R 299.6201 (1) (g) (iii) and (iv). *figure A* of R299.6201(2), or *figure B* of R299.6201 (3):
NOTE: If the hazardous waste numbers that have been entered under item 3, begin with the letter "P" use *figure A* to determine if it is a notification waste. If the number begins or ends with the letter "U" use *figure B*.

16. Are the hazardous wastes listed on this form disposed of onsite? ☐ Yes ☒ No

17. If the waste is a hazardous waste, is it exempt under the small quantity exemptions pursuant to R 299.6203(2) and (3)? ☐ Yes ☒ No

18. If tests were conducted in the evaluation of the waste, all of the following information shall be transmitted to the Department of Natural Resources with the waste characterization Record:
(a) The sampling procedure and the reasons for determining that the sample is representative of the waste
(b) The results of all tests conducted.
(c) The accuracy and precision of any test conducted.

SECTION G. U.S. DEPT. OF TRANSPORTATION REPORTING REQUIREMENTS

Hazardous Materials Description and Shipping Name: Hazardous Waste, Liquid, N.O.S.

Hazard Class: ORM-E

UN/DA ID No.: NA 9189

Special Handling and Shipping Requirements:

If the waste is hazardous and not exempt or excluded from management, or is a notification waste, send the completed form to the Department of Natural Resources, Office of Hazardous Waste Management, P.O. Box 30038, Lansing, MI 48909.

Kestutis A. Keblys — Signature

Assist. Director, A&IR — Title

9-21-83 — Date

0100118

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF HAZARDOUS WASTE MANAGEMENT
BOX 30035
LANSING, MICHIGAN 48909

WASTE CHARACTERIZATION REPORT

SECTION A. WASTE GENERATOR IDENTIFICATION INFORMATION

EPA IDENTIFICATION NUMBER: MID 041803123

BUSINESS NAME: Ethyl Corporation

ADDRESS: 1600 W. Eight Mile Road

CITY: Ferndale, STATE: Michigan, ZIP CODE: 48220

NAME AND TITLE OF CONTACT PERSON: Kestutis A. Keblys, Assist. Director, A&IR

TELEPHONE NUMBER: (313) 399-9600

SECTION B. COMMON NAME OF THE WASTE

ENTER TYPE OF WASTE (i.e. common name) characterized on this form and the source or process from which it was produced.

Phosphorus Oxychloride

SECTION C. LISTED HAZARDOUS WASTE

	COMPONENT CONCENTRATION	HAZARDOUS WASTE NO.
1. If the waste is listed in tables 301 a, b, c, or d of Rule 299.6308, 299. 6309, 299.6310 or 299.6311, respectively or table 305 of Rule 299.6317, enter the hazardous waste number from the appropriate table		
2. If the waste is a discarded commercial chemical product, off-specification specie, container or spill residue of a substance listed in Table 302a, Rule 299.6312, or Table 302 b or c, Rule 299.6313 or 299.6314, respectively, enter the hazardous waste number from the applicable table		
3. If waste *contains* any substances listed in table 302 a, b, or c, Rule 299.6312, 299.6313,or 299.6314, respectively, enter their hazardous waste number(s) from the applicable table AND record the component concentrations.	____ to ____ %	
	____ to ____ %	
	____ to ____ %	
4. If the waste contains viable disease-causing agents listed in table 304, Rule 299.6316, enter the hazardous waste number(s) from the table		

SECTION D. HAZARDOUS WASTE BASED ON CHARACTERISTICS

Ignitable Wastes	Test Results	Parameters	Reference
5a. Liquid flash point test (aqueous solutions containing less than 24% alcohol by volume are excluded from this test).	>60°C ____ to ____ °c	Flash Pt. 60°c	299.6201 (c) (i)
5b. Non-liquid — Is it ignitable based on conditions stated in the reference?	☐ Yes ☒ No	See Reference	299.6201 (c) (ii)
5c. Compressed gas — Is the waste a flammable compressed gas as defined in the reference?	☐ Yes ☒ No	See Reference	49 CFR § 173.300
5d. Oxidizer — Is the waste an oxidizer as defined in the reference?	☐ Yes ☒ No	See Reference	49 CRF § 173.151
5e. Enter "D001", as the hazardous waste number if the waste exceeds one or more of the parameters listed or meets the definition of a hazardous waste based on the reference			

6. Corrosive Wastes (concentrated salt solutions are by definintion not coorosive)	Test Results	Parameters	Reference
6a. Aqueous Solution — ph test	1.0 ph	See Reference	299.6201 (a) (i)
6b. Liquid-Steel (type SAE 1020) corrosion test	____ mm/yr	Rate 6.35 mm/yr	299.6201 (a) (ii)
6c. Albino rabbit skin test — Is the tissue destroyed or irreversibly changed?	☒ Yes ☐ No	See Reference	229.6201 (a) (iii) & 49 CFR § 173.240
6d. Enter "D002", as the hazardous waste number if the waste exceeds one or more of the parameters listed			D002

7. Reactive wastes

7a. Is the waste normally unstable and capable of undergoing violent chemical or physical change without detonating?	☐ Yes ☒ No
7b. Does it react with water forming potentially explosive mixtures with water?	☐ Yes ☒ No
7c. When mixed with water, does it generate toxic gases, vapors, or fumes?	☒ Yes ☐ No
7d. Is it a sulfide or cyanide bearing waste which when exposed to ph conditions between 2 and 12.5, can generate toxic gasses, vapors, or fumes?	☐ Yes ☒ No
7e. Is the waste capable of detonation or explosive reaction when subjected to a strong initiating source or if heated under confinement?	☐ Yes ☒ No

— over —

7f. Is the waste capable of detonation or explosive decomposition or reaction at standard temperature and pressure? ☐ Yes ☒ No

7g. Is the waste a forbidden explosive as defined in 49 CFR § 173.51? ☐ Yes ☒ No

7h. Is the waste a Class A explosive as defined in 49 CFR § 173.53? ☐ Yes ☒ No

7i. Is the waste a Class B explosive as defined in 49 CFR § 173.88? ☐ Yes ☒ No

7j. If the answer to any of the questions 7a through 7i is yes, enter "D003", as the hazardous waste number. D003

8. EPA Toxic Wastes — Upon obtaining an extract of the waste as described on 40 CFR § 261, Appendix II, test for the components listed in Table 303, Rule 299.6315. For each component material that exceeds the extract concentration listed in the table, enter the hazardous waste number(s) and the tested concentration(s):

Hazardous Waste No.	Concentration
	mg/l
	mg/l
	mg/l
	mg/l

SECTION E. PHYSICAL STATE AT 25°

9. What is the average density of the material? 1.4

10. Solids: Does the material produce dust if exposed to air movement? ☐ Yes ☐ No

11. Liquid — Sludge: What is the percent solids? ____ %
Do the solids settle out? ☐ Yes ☐ No
Can the material be pumped? ☐ Yes ☐ No
Can the material be poured.? ☐ Yes ☐ No

12. Liquid: At what temperature does it freeze? 0 °C

13. Gases: What is the maximum pressure of the container? ____ PSIG

SECTION F. OTHER INFORMATION:

14. What is the maximum quantity of this waste that is generated per month? ____ kg.

15. If the only hazardous waste numbers listed on this form are the numbers that have been entered for Item 3, enter the numbers in the space provided if the component concentration (Item 3) and the quantity of the waste generated (Item 14) cause the waste to be considered as a notification waste based on R 299.6201 (1) (g) (iii) and (iv), *figure A* of R299.6201(2), or *figure B* of R299.6201 (3):
NOTE: If the hazardous waste numbers that have been entered under Item 3, begin with the letter "P" use *figure A* to determine if it is a notification waste. If the number begins or ends with the letter "U" use *figure B*.

16. Are the hazardous wastes listed on this form disposed of onsite? ☐ Yes ☒ No

17. If the waste is a hazardous waste, is it exempt under the small quantity exemptions pursuant to R 299.6203(2) and (3)? ☐ Yes ☒ No

18. If tests were conducted in the evaluation of the waste, all of the following information shall be transmitted to the Department of Natural Resources with the waste characterization Record:
(a) The sampling procedure and the reasons for determining that the sample is representative of the waste
(b) The results of all tests conducted.
(c) The accuracy and precision of any test conducted.

SECTION G. U.S. DEPT. OF TRANSPORTATION REPORTING REQUIREMENTS

Hazardous Materials Description and Shipping Name: Hazardous Waste, Liquid, N.O.S.

Hazard Class: ORM-E

UN/DA ID No.: NA 9189

Special Handling and Shipping Requirements:

If the waste is hazardous and not exempt or excluded from management, or is a notification waste, send the completed form to the Department of Natural Resources, Office of Hazardous Waste Management, P.O. Box 30038, Lansing, MI 48909.

Kestutis A. Keblys Signature — Assist. Director, A&IR Title — 9-21-83 Date

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF HAZARDOUS WASTE MANAGEMENT
BOX 30030
LANSING, MICHIGAN 48909

WASTE CHARACTERIZATION REPORT

SECTION A. WASTE GENERATOR IDENTIFICATION INFORMATION

EPA IDENTIFICATION NUMBER: MID 041803123

BUSINESS NAME: Ethyl Corporation

ADDRESS: 1600 W. Eight Mile Road

CITY: Ferndale, STATE: Michigan, ZIP CODE: 48220

NAME AND TITLE OF CONTACT PERSON: Kestutis A. Keblys, Assist. Director, A&IR

TELEPHONE NUMBER: (313) 399-9600

SECTION B. COMMON NAME OF THE WASTE

ENTER TYPE OF WASTE (i.e. common name) characterized on this form and the source or process from which it was produced.

Mixed Organic Chemical Waste (contains P, S, Cl) (2 drums)

SECTION C. LISTED HAZARDOUS WASTE

	COMPONENT CONCENTRATION	HAZARDOUS WASTE NO.
1. If the waste is listed in tables 301 a, b, c, or d of Rule 299.6308, 299. 6309, 299.6310 or 299.6311, respectively or table 305 of Rule 299.6317, enter the hazardous waste number from the appropriate table		
2. If the waste is a discarded commercial chemical product, off-specification specie, container or spill residue of a substance listed in Table 302a, Rule 299.6312, or Table 302 b or c, Rule 299.6313 or 299.6314, respectively, enter the hazardous waste number from the applicable table		
3. If waste *contains* any substances listed in table 302 a, b, or c, Rule 299.6312, 299.6313,or 299.6314, respectively, enter their hazardous waste number(s) from the applicable table AND record the component concentrations.	____ to ____ %	
	____ to ____ %	
	____ to ____ %	
4. If the waste contains viable desease-causing agents listed in table 304, Rule 299.6316, enter the hazardous waste number(s) from the table		

SECTION D. HAZARDOUS WASTE BASED ON CHARACTERISTICS

Ignitable Wastes	Test Results	Parameters	Reference
5a. Liquid flash point test (aqueous solutions containing less than 24% alcohol by volume are excluded from this test).	50 to 150 °c	Flash Pt. 60°c	299.6201 (c) (i)
5b. Non-liquid — Is it ignitable based on conditions stated in the reference?	☐ Yes ☐ No	See Reference	299.6201 (c) (ii)
5c. Compressed gas — Is the waste a flammable compressed gas as defined in the reference?	☐ Yes ☐ No	See Reference	49 CFR § 173.300
5d. Oxidizer — Is the waste an oxidizer as defined in the reference?	☐ Yes ☐ No	See Reference	49 CRF § 173.151
5e. Enter "D001", as the hazardous waste number if the waste exceeds one or more of the parameters listed or meets the definition of a hazardous waste based on the reference			D001

6. Corrosive Wastes (concentrated salt solutions are by definintion not coorosive)	Test Results	Parameters	Reference
6a. Aqueous Solution — ph test	____ ph	See Reference	299.6201 (a) (i)
6b. Liquid-Steel (type SAE 1020) corrosion test	____ mm/yr	Rate 6.35 mm/yr	299.6201 (a) (ii)
6c. Albino rabbit skin test — Is the tissue destroyed or irreversibly changed?	☐ Yes ☐ No	See Reference	229.6201 (a) (iii) & 49 CFR § 173.240
6d. Enter "D002", as the hazardous waste number if the waste exceeds one or more of the parameters listed			

7. Reactive wastes

7a. Is the waste normally unstable and capable of undergoing violent chemical or physical change without detonating?	☐ Yes ☒ No
7b. Does it react with water forming potentially explosive mixtures with water?	☐ Yes ☒ No
7c. When mixed with water, does it generate toxic gases, vapors, or fumes?	☐ Yes ☒ No
7d. Is it a sulfide or cyanide bearing waste which when exposed to ph conditions between 2 and 12.5, can generate toxic gasses, vapors, or fumes?	☐ Yes ☒ No
7e. Is the waste capable of detonation or explosive reaction when subjected to a strong initiating source or if heated under confinement?	☐ Yes ☐ No

— over —

7f. Is the waste capable of detonation or explosive decomposition or reaction at standard temperature and pressure? ☐ Yes ☒ No

7g. Is the waste a forbidden explosive as defined in 49 CFR § 173.51? ☐ Yes ☒ No

7h. Is the waste a Class A explosive as defined in 49 CFR § 173.53? ☐ Yes ☒ No

7i. Is the waste a Class B explosive as defined in 49 CFR § 173.88? ☐ Yes ☒ No

7j. If the answer to any of the questions 7a through 7i is yes, enter "D003", as the hazardous waste number. ____

8. EPA Toxic Wastes — Upon obtaining an extract of the waste as described on 40 CFR § 261, Appendix II, test for the components listed in Table 303, Rule 299.6315. For each component material that exceeds the extract concentration listed in the table, enter the hazardous waste number(s) and the tested concentration(s):

Hazardous Waste No.	Concentration
____	____ mg/l
____	____ mg/l
____	____ mg/l
____	____ mg/l

SECTION E. PHYSICAL STATE AT 25°

9. What is the average density of the material? 1.1

10. Solids: Does the material produce dust if exposed to air movement? ☐ Yes ☐ No

11. Liquid — Sludge: What is the percent solids? <1 %
Do the solids settle out? ☐ Yes ☒ No
Can the material be pumped? ☒ Yes ☐ No
Can the material be poured.? ☒ Yes ☐ No

12. Liquic: At what temperature does it freeze? -5 °C

13. Gases: What is the maximum pressure of the container? ____ PSIG

SECTION F. OTHER INFORMATION:

14. What is the maximum quantity of this waste that is generated per month? one time ____ kg.

15. If the only hazardous waste numbers listed on this form are the numbers that have been entered for Item 3, enter the numbers in the space provided if the component concentration (Item 3) and the quantity of the waste generated (Item 14) cause the waste to be considered as a notification waste based on R 299.6201 (1) (g) (iii) and (iv), *figure A* of R299.6201(2), or *figure B* of R299.6201 (3):
NOTE: If the hazardous waste numbers that have been entered under Item 3, begin with the letter "P" use *figure A* to determine if it is a notification waste. If the number begins or ends with the letter "U" use *figure B*.

16. Are the hazardous wastes listed on this form disposed of onsite? ☐ Yes ☐ No

17. If the waste is a hazardous waste, is it exempt under the small quantity exemptions pursuant to R 299.6203(2) and (3)? ☐ Yes ☒ No

18. If tests were conducted in the evaluation of the waste, all of the following information shall be transmitted to the Department of Natural Resources with the waste characterization Record:
(a) The sampling procedure and the reasons for determining that the sample is representative of the waste
(b) The results of all tests conducted.
(c) The accuracy and precision of any test conducted.

SECTION G. U.S. DEPT. OF TRANSPORTATION REPORTING REQUIREMENTS

Hazardous Materials Description and Shipping Name
Hazardous Waste - Liquid, N.O.S.

Hazard Class
ORM-E

UN/DA ID No.
NA 9189

Special Handling and Shipping Requirements

If the waste is hazardous and not exempt or excluded from management, or is a notification waste, send the completed form to the Department of Natural Resources, Office of Hazardous Waste Management, P.O. Box 30038, Lansing, MI 48909.

Kestutis A. Keblys — Signature

Assist. Director, A&IR — Title

9-21-83 — Date

0100118

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF HAZARDOUS WASTE MANAGEMENT
BOX 30030
LANSING, MICHIGAN 48909

WASTE CHARACTERIZATION REPORT

SECTION A. WASTE GENERATOR IDENTIFICATION INFORMATION

EPA IDENTIFICATION NUMBER: MID 041803123

BUSINESS NAME: Ethyl Corporation

ADDRESS: 1600 W. Eight Mile Road

CITY: Ferndale, STATE: Michigan, ZIP CODE: 48220

NAME AND TITLE OF CONTACT PERSON: Kestutis A. Keblys, Assist. Director, A&IR

TELEPHONE NUMBER: (313) 399-9600

SECTION B. COMMON NAME OF THE WASTE

ENTER TYPE OF WASTE (i.e. common name) characterized on this form and the source or process from which it was produced.

Inorganic and Brominated Organic Waste - Solid (Lab-packs)

SECTION C. LISTED HAZARDOUS WASTE

	COMPONENT CONCENTRATION	HAZARDOUS WASTE NO.
1. If the waste is listed in tables 301 a, b, c, or d of Rule 299.6308, 299. 6309, 299.6310 or 299.6311, respectively or table 305 of Rule 299.6317, enter the hazardous waste number from the appropriate table		
2. If the waste is a discarded commercial chemical product, off-specification specie, container or spill residue of a substance listed in Table 302a, Rule 299.6312, or Table 302 b or c, Rule 299.6313 or 299.6314, respectively, enter the hazardous waste number from the applicable table		
3. If waste *contains* any substances listed in table 302 a, b, or c, Rule 299.6312, 299.6313,or 299.6314, respectively, enter their hazardous waste number(s) from the applicable table AND record the component concentrations.	____ to ____ % ____ to ____ % ____ to ____ %	
4. If the waste contains viable desease-causing agents listed in table 304, Rule 299.6316, enter the hazardous waste number(s) from the table		

SECTION D. HAZARDOUS WASTE BASED ON CHARACTERISTICS

	Test Results	Parameters	Reference
5. Ignitable Wastes			
5a. Liquid flash point test (aqueous solutions containing less than 24% alcohol by volume are excluded from this test).	____ to ____ °c	Flash Pt. 60°c	299.6201 (c) (i)
5b. Non-liquid — Is it ignitable based on conditions stated in the reference?	☐ Yes ☒ No	See Reference	299.6201 (c) (ii)
5c. Compressed gas — Is the waste a flammable compressed gas as defined in the reference?	☐ Yes ☒ No	See Reference	49 CFR § 173.300
5d. Oxidizer — Is the waste an oxidizer as defined in the reference?	☐ Yes ☒ No	See Reference	49 CRF § 173.151
5e. Enter "D001", as the hazardous waste number if the waste exceeds one or more of the parameters listed or meets the definition of a hazardous waste based on the reference			
6. Corrosive Wastes (concentrated salt solutions are by definintion not coorosive)	Test Results	Parameters	Reference
6a. Aqueous Solution — ph test	____ ph	See Reference	299.6201 (a) (i)
6b. Liquid-Steel (type SAE 1020) corrosion test	____ mm/yr	Rate 6.35 mm/yr	299.6201 (a) (ii)
6c. Albino rabbit skin test — Is the tissue destroyed or irreversibly changed?	☐ Yes ☒ No	See Reference	229.6201 (a) (iii) & 49 CFR § 173.240
6d. Enter "D002", as the hazardous waste number if the waste exceeds one or more of the parameters listed			

7. Reactive wastes	
7a. Is the waste normally unstable and capable of undergoing violent chemical or physical change without detonating?	☐ Yes ☒ No
7b. Does it react with water forming potentially explosive mixtures with water?	☐ Yes ☒ No
7c. When mixed with water, does it generate toxic gases, vapors, or fumes?	☐ Yes ☒ No
7d. Is it a sulfide or cyanide bearing waste which when exposed to ph conditions between 2 and 12.5, can generate toxic gasses, vapors, or fumes?	☐ Yes ☒ No
7e. Is the waste capable of detonation or explosive reaction when subjected to a strong initiating source or if heated under confinement?	☐ Yes ☒ No

— over —

7f. Is the waste capable of detonation or explosive decomposition or reaction at standard temperature and pressure? ☐ Yes ☒

7g. Is the waste a forbidden explosive as defined in 49 CFR § 173.51? ☐ Yes ☒ No

7h. Is the waste a Class A explosive as defined in 49 CFR § 173.53? ☐ Yes ☒ No

7i. Is the waste a Class B explosive as defined in 49 CFR § 173.88? ☐ Yes ☒ No

7j. If the answer to any of the questions 7a through 7i is yes, enter "D003", as the hazardous waste number. ____

8. EPA Toxic Wastes — Upon obtaining on extract of the waste as described on 40 CFR § 261, Appendix II, test for the components listed in Table 303, Rule 299.6315. For each component material that exceeds the extract concentration listed in the table, enter the hazardous waste number(s) and the tested concentration(s):

Hazardous Waste No.	Concentration
____	____ mg/l
____	____ mg/l
____	____ mg/l
____	____ mg/l

SECTION E. PHYSICAL STATE AT 25°

9. What is the average density of the material? 1.9

10. Solids: Does the material produce dust if exposed to air movement? (possibly) ☒ Yes ☐ No

11. Liquid — Sludge: What is the percent solids? ____ %
Do the solids settle out? ☐ Yes ☐ No
Can the material be pumped? ☐ Yes ☐ No
Can the material be poured.? ☐ Yes ☐ No

12. Liquid: At what temperature does it freeze? ____ °C

13. Gases: What is the maximum pressure of the container? ____ PSIG

SECTION F. OTHER INFORMATION:

14. What is the maximum quantity of this waste that is generated per month? one time ____ kg.

15. If the only hazardous waste numbers listed on this form are the numbers that have been entered for Item 3, enter the numbers in the space provided if the component concentration (Item 3) and the quantity of the waste generated (Item 14) cause the waste to be considered as a notification waste based on R 299.6201 (1) (g) (iii) and (iv), *figure A* of R299.6201(2), or *figure B* of R299.6201 (3): ____ ____ ____

NOTE: If the hazardous waste numbers that have been entered under item 3, begin with the letter "P" use *figure A* to determine if it is a notification waste. If the number begins or ends with the letter "U" use *figure B*.

16. Are the hazardous wastes listed on this form disposed of onsite? ☐ Yes ☒

17. If the waste is a hazardous waste, is it exempt under the small quantity exemptions pursuant to R 299.6203(2) and (3)? ☐ Yes ☒ No

18. If tests were conducted in the evaluation of the waste, all of the following information shall be transmitted to the Department of Natural Resources with the waste characterization Record:

(a) The sampling procedure and the reasons for determining that the sample is representative of the waste

(b) The results of all tests conducted.

(c) The accuracy and precision of any test conducted.

SECTION G. U.S. DEPT. OF TRANSPORTATION REPORTING REQUIREMENTS

Hazardous Materials Description and Shipping Name
Hazardous Waste, Solid, N.O.S.

Hazard Class
ORM-E

UN/DA ID No.
NA 9189

Special Handling and Shipping Requirements

If the waste is hazardous and not exempt or excluded from management, or is a notification waste, send the completed form to the Department of Natural Resources, Office of Hazardous Waste Management, P.O. Box 30038, Lansing, MI 48909.

Kestutis A. Keblys
Signature

Assist. Director, A&IR
Title

9-21-83
Date

INVENTORY LISTS

for Waste Shipment to

SCA Chemical Services, Inc.

Model City, New York

Code 3435

Code 3435-A

Drum No.	Class	Size, gal.	Contents	No. of Containers	Weight, lbs
SW-6	B	55	Aluminum acetate	8	25
				1	18
SW-7	B	55	Copper carbonate	4	25
			Manganese acetate	5	25
				1	12
			Aluminum powder	2	4
			Calcium aluminate	1	5
			Pd (0.05%) on Silica-CCI catalyst	1	5
			Supported nickel oxide catalyst	1	9
			Phosphorus - red, amorphous	6	1
SW-8	B	55	Lead bromide	2	40
				1	35
				1	20
			Blown lead metal	1	45
			Kaolinite-Bentonite	1	6
			Cryolite	1	10
			Barium-copper chromite catalyst	1	5
			Nickel-copper oxide	1	10
			Zinc powder	1	5
			Lead chloride-bromide	2	1
			Misc. automotive exhaust catalysts	2	12
				2	6
				1	7
				1	14

Drum No.	Class	Size, gal.	Contents	No. of Containers	Weight, lbs
SW-9	B	55	Cobalt acetate	1	45
			Zinc chloride	1	50
				1	50
			Socony Mobil "D" TCR catalyst	1	4
			Pigment ONCOR 75 RAZ	2	4
			Copper catalyst (Harshaw)	2	2
			Copper chromite catalyst	1	1
			Zinc chromite catalyst	1	2
			Copper-molybdenum oxide	1	4
			Molybdenum trioxide	1	0.3
			Vanadia catalyst	1	0.2
			Strontium	1	0.1
			Tungstic oxide	1	0.1
			Lead-tin alloy powder	1	0.1
			Molybdenum oxide	1	0.1
			Nickel metal powder	1	0.1
SW-10	D	5	Sulfur	1	15
				1	15
SW-11	D	5	Sulfur	1	40
SW-12	C	55	p-Bromophenol	1	35
				1	32
			Tetrabromobispheno-A	1	17
				1	12
			Mixed brominated xylenes-flame retardants	1	45
				1	22
				1	17
				1	12
				1	6
				2	8

Drum No.	Class	Size, Gal.	Contents	No of Containers	Weight, lbs.
SW-13	C	55	p-Bromophenol	3	25
				1	5
			5-Bromopyrimidine	8	2.5
				1	2.0
				1	1.0
				3	0.5
			Dibromoxylenes	1	5.5
				1	3.0
				1	2.5
				2	1.5
			Tetrabromobisphenol-A	1	1.0
				1	0.5
			Tetrabromophthalic anhydride	1	25
			Tetrabromoxylene	1	1.5
				5	1.0
				1	0.2

Code 3435-B

Drum P-1	Mixed Organic Liquid Waste
Drum P-3	Mixed Organic Liquid Waste

Code 3435-C

1 - 55 gal. Drum Phosphorus Oxychloride ($POCl_3$)

Code 3435-D

1 - 55 gal. Drum Phosphorus Trichloride (PCl_3)

Code 3435-E

Drum No.	Class	Size, gal.	Contents	No. of Containers	Weight, lbs
SW-5	B	55	Lead oxide/halide deposits from automotive traps	(full drum)	

Code 3435-F

Drum No.	Class	Size, gal.	Contents	No. of Containers	Weight, lbs
SW-1	B	55	Copper Sulfide Ore Concentrate	(full drum)	
SW-2	B	55	Copper Sulfide Ore Concentrate	(full drum)	
SW-3	B	5	Copper Sulfide Ore Concentrate	(full drum)	
SW-4	B	5	Copper Sulfide Ore Concentrate	(full drum)	

STATE OF MICHIGAN

Rev. 3/81

WASTE DISPOSAL MANIFEST

☒ Act 64 Waste (HAZARDOUS) ☐ Act 136 Waste (OTHER) MI 010011

IDENTIFICATION

Generator's Name	Primary Transporter's Name	Treatment, Storage or Disposal Facility
Ethyl Corporation	Great Lakes Environmental Services	SCA Chemical Services, Inc.
Site Address	**Transporters Address**	**Facility Address**
1600 W. Eight Mile Road Ferndale, Michigan 48220	22077 Mound Road Warren, Michigan 48090	11700 S. Stony Island Avenue Chicago, Illinois 60617
Phone Number	**Phone Number**	**Phone Number**
(313) 399-9600	(313) 758-0400	(312) 646-5700
Generator's Site EPA I.D. Number	**Transporter's EPA I.D. Number**	**Facility Site EPA I.D. Number**
MI D 041803123	MI D 087478574	IL D 000672121

If more than one Transporter is to be utilized, give the Name and EPA I.D. Number of each:

GENERATOR COMPLETES — WASTE INFORMATION

LOT NO.	U.S. D.O.T. Shipping Name	D.O.T. Hazard Class	U.N./N.A. No.	Haz. Class Code	Container No.	Container Type	Form: Solid	Form: Liquid	Form: Gas	Form: Sludge	Weight or Volume	Units	Hazardous Waste Number
1.	Hazardous Waste, Liquid, n.o.s.	ORM-E	NA 9189		20	DR		X			1100	Gal	D001
2.	Hazardous Waste, Liquid, n.o.s.	ORM-E	NA 9189		6	DR		X			330	Gal	D001
3.	Hazardous Waste, Solid, n.o.s.	ORM-E	NA 9189		8	DR	X				440	Gal	D001
4.													
5.													
6.													

COMMENTS Include Safety precautions and special handling instructions.

1) 55-Gal. plastic or steel drums of flammable and toxic organic waste. Drum Nos. B82 - B101,
2) 55-Gal. steel drums of halogenated organic waste. Drum Nos. GS1 - GS6.
3) 55-Gal. fiber drums of organic waste in plastic and glass containers. Drum Nos. LP-18R, 23R, 84R, 85R, 88R, 92R, 94R and 105.

GENERATOR CERTIFICATION: I certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and U.S. EPA. I further certify that the information contained on the manifest is factual. I understand that the failure to accurately report all information requested by the manifest constitutes a violation of 1979 PA64 and/or PA136. I further understand that this manifest may be used in administrative and court proceedings.

Generator Signature ① Chester P. Juena — Date Shipped MO. DAY YEAR: 09 15 83

TRANSPORTER COMPLETES

HAULER'S CERTIFICATION: I certify acceptance of the above identified wastes for transportation. I further certify that I shall deliver the hazardous wastes, together with this manifest, only to the destination specified by the generator on this manifest. I understand that this manifest can be used in administrative and court proceedings.

Transporter Vehicle I.D. No. No. 1 830211

Subsequent Transporter Vehicle I.D. No's

Transporter Signature ② Jerry Schwer — Date(s) Received: 09 15 83

Subsequent transporter(s) signature(s) ③

If the shipment cannot be delivered, describe the reasons for non-delivery.

TSDF COMPLETES

TSDF CERTIFICATION: I certify receipt at this facility of the above identified wastes and that this facility is licensed to accept those wastes. I also certify that the wastes were accompanied by a manifest properly certified by both the generator and hauler and that this facility is the destination indicated on the manifest. I understand that this manifest can be used in administrative and court proceedings.

TSDF Signature ④

Facility Site EPA I.D. Number

☐ Accepted ☐ Rejected

Date Received

Describe any significant discrepancies between manifest and shipment.

ALL SPILLS MUST BE REPORTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM AT 800—294-4706, 24 HOURS PER DAY AND THE NATIONAL RESPONSE CENTER AT 800—424-8802

MDNR 1ST COPY

0100117

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF HAZARDOUS WASTE MANAGEMENT
BOX 30030
LANSING, MICHIGAN 48909

WASTE CHARACTERIZATION REPORT

SECTION A. WASTE GENERATOR IDENTIFICATION INFORMATION

EPA IDENTIFICATION NUMBER: MID 041803123

BUSINESS NAME: Ethyl Corporation

ADDRESS: 1600 W. Eight Mile Rd.

CITY: Ferndale, STATE: Michigan, ZIP CODE: 48220

NAME AND TITLE OF CONTACT PERSON: C. P. Jarema

TELEPHONE NUMBER: (313) 399-9600

SECTION B. COMMON NAME OF THE WASTE

ENTER TYPE OF WASTE (i.e. common name) characterized on this form and the source or process from which it was produced.

Organic Laboratory Waste - Liquid

SECTION C. LISTED HAZARDOUS WASTE

	COMPONENT CONCENTRATION	HAZARDOUS WASTE NO.
1. If the waste is listed in tables 301 a, b, c, or d of Rule 299.6308, 299. 6309, 299.6310 or 299.6311, respectively or table 305 of Rule 299.6317, enter the hazardous waste number from the appropriate table		
2. If the waste is a discarded commercial chemical product, off-specification specie, container or spill residue of a substance listed in Table 302a, Rule 299.6312, or Table 302 b or c, Rule 299.6313 or 299.6314, respectively, enter the hazardous waste number from the applicable table		
3. If waste contains any substances listed in table 302 a, b, or c, Rule 299.6312, 299.6313,or 299.6314, respectively, enter their hazardous waste number(s) from the applicable table AND record the component concentrations.	____ to ____ %	
	____ to ____ %	
	____ to ____ %	
4. If the waste contains viable disease-causing agents listed in table 304, Rule 299.6316, enter the hazardous waste number(s) from the table		

SECTION D. HAZARDOUS WASTE BASED ON CHARACTERISTICS

	Test Results	Parameters	Reference
5. Ignitable Wastes			
5a. Liquid flash point test (aqueous solutions containing less than 24% alcohol by volume are excluded from this test).	<60°C ____ to ____ °c	Flash Pt. 60°c	299.6201 (c) (i)
5b. Non-liquid — is it ignitable based on conditions stated in the reference?	☐ Yes ☐ No	See Reference	299.6201 (c) (ii)
5c. Compressed gas — is the waste a flammable compressed gas as defined in the reference?	☐ Yes ☐ No	See Reference	49 CFR § 173.300
5d. Oxidizer — is the waste an oxidizer as defined in the reference?	☐ Yes ☐ No	See Reference	49 CRF § 173.151
5e. Enter "D001", as the hazardous waste number if the waste exceeds one or more of the parameters listed or meets the definition of a hazardous waste based on the reference			D001
6. Corrosive Wastes (concentrated salt solutions are by definintion not corrosive)	Test Results	Parameters	Reference
6a. Aqueous Solution — ph test	____ ph	See Reference	299.6201 (a) (i)
6b. Liquid-Steel (type SAE 1020) corrosion test	____ mm/yr	Rate 6.35 mm/yr	299.6201 (a) (ii)
6c. Albino rabbit skin test — is the tissue destroyed or irreversibly changed?	☐ Yes ☐ No	See Reference	229.6201 (a) (iii) & 49 CFR § 173.240
6d. Enter "D002", as the hazardous waste number if the waste exceeds one or more of the parameters listed			
7. Reactive wastes			
7a. Is the waste normally unstable and capable of undergoing violent chemical or physical change without detonating?			☐ Yes ☒ No
7b. Does it react with water forming potentially explosive mixtures with water?			☐ Yes ☒ No
7c. When mixed with water, does it generate toxic gases, vapors, or fumes?			☐ Yes ☒ No
7d. Is it a sulfide or cyanide bearing waste which when exposed to ph conditions between 2 and 12.5, can generate toxic gasses, vapors, or fumes?			☐ Yes ☒ No
7e. Is the waste capable of detonation or explosive reaction when subjected to a strong initiating source or if heated under confinement?			☐ Yes ☒ No

— over —

7f. Is the waste capable of detonation or explosive decomposition or reaction at standard temperature and pressure? ☐ Yes ☒ No

7g. Is the waste a forbidden explosive as defined in 49 CFR § 173.51? ☐ Yes ☒ No

7h. Is the waste a Class A explosive as defined in 49 CFR § 173.53? ☐ Yes ☒ No

7i. Is the waste a Class B explosive as defined in 49 CFR § 173.88? ☐ Yes ☒ No

7j. If the answer to any of the questions 7a through 7i is yes, enter "D003", as the hazardous waste number. ____

8. EPA Toxic Wastes — Upon obtaining an extract of the waste as described on 40 CFR § 261, Appendix II, test for the components listed in Table 303, Rule 299.6315. For each component material that exceeds the extract concentration listed in the table, enter the hazardous waste number(s) and the tested concentration(s):

Hazardous Waste No.	Concentration
____	____ mg/l
____	____ mg/l
____	____ mg/l
____	____ mg/l

SECTION E. PHYSICAL STATE AT 25°

9. What is the average density of the material? 8 lbs/gal

10. Solids: Does the material produce dust if exposed to air movement? ☐ Yes ☐ No

11. Liquid — Sludge: What is the percent solids? <1 %
Do the solids settle out? ☐ Yes ☒ No
Can the material be pumped? ☒ Yes ☐ No
Can the material be poured.? ☒ Yes ☐ No

12. Liquid: At what temperature does it freeze? <Zero °C

13. Gases: What is the maximum pressure of the container? ____ PSIG

SECTION F. OTHER INFORMATION:

14. What is the maximum quantity of this waste that is generated per month? ____ kg.

15. If the only hazardous waste numbers listed on this form are the numbers that have been entered for Item 3, enter the numbers in the space provided if the component concentration (Item 3) and the quantity of the waste generated (Item 14) cause the waste to be considered as a notification waste based on R 299.6201 (1) (g) (iii) and (iv), *figure A* of R299.6201(2), or *figure B* of R299.6201 (3): ____ - ____ - ____

NOTE: If the hazardous waste numbers that have been entered under Item 3, begin with the letter "P" use *figure A* to determine if it is a notification waste. If the number begins or ends with the letter "U" use *figure B*.

16. Are the hazardous wastes listed on this form disposed of onsite? ☐ Yes ☒ No

17. If the waste is a hazardous waste, is it exempt under the small quantity exemptions pursuant to R 299.6203(2) and (3)? ☐ Yes ☒ No

18. If tests were conducted in the evaluation of the waste, all of the following information shall be transmitted to the Department of Natural Resources with the waste characterization Record:

(a) The sampling procedure and the reasons for determining that the sample is representative of the waste

(b) The results of all tests conducted.

(c) The accuracy and precision of any test conducted.

SECTION G. U.S. DEPT. OF TRANSPORTATION REPORTING REQUIREMENTS

Hazardous Materials Description and Shipping Name: Hazardous Waste, Liquid, n.o.s.

Hazard Class: ORM-E

UN/DA ID No.: NA 9189

Special Handling and Shipping Requirements:

If the waste is hazardous and not exempt or excluded from management, or is a notification waste, send the completed form to the Department of Natural Resources, Office of Hazardous Waste Management, P.O. Box 30038, Lansing, MI 48909.

Chester P. Jarema
C. P. Jarema — Signature

Analytical Chemist — Title

9-15-83 — Date

0100117

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF HAZARDOUS WASTE MANAGEMENT
BOX 30030
LANSING, MICHIGAN 48909

WASTE CHARACTERIZATION REPORT

SECTION A. WASTE GENERATOR IDENTIFICATION INFORMATION

EPA IDENTIFICATION NUMBER: MID 041803123

BUSINESS NAME: Ethyl Corporation

ADDRESS: 1600 W. Eight Mile Road

CITY: Ferndale, STATE: Michigan, ZIP CODE: 48220

NAME AND TITLE OF CONTACT PERSON: C. P. Jarema

TELEPHONE NUMBER: (313) 399-9600

SECTION B. COMMON NAME OF THE WASTE

ENTER TYPE OF WASTE (i.e. common name) characterized on this form and the source or process from which it was produced.

1 Organic Laboratory Waste - Solid

SECTION C. LISTED HAZARDOUS WASTE

	COMPONENT CONCENTRATION	HAZARDOUS WASTE NO.
1. If the waste is listed in tables 301 a, b, c, or d of Rule 299.6308, 299. 6309, 299.6310 or 299.6311, respectively or table 305 of Rule 299.6317, enter the hazardous waste number from the appropriate table		
2. If the waste is a discarded commercial chemical product, off-specification specie, container or spill residue of a substance listed in Table 302a, Rule 299.6312, or Table 302 b or c, Rule 299.6313 or 299.6314, respectively, enter the hazardous waste number from the applicable table		
3. If waste *contains* any substances listed in table 302 a, b, or c, Rule 299.6312, 299.6313,or 299.6314, respectively, enter their hazardous waste number(s) from the applicable table AND record the component concentrations.	____ to ____ %	
	____ to ____ %	
	____ to ____ %	
4. If the waste contains viable desease-causing agents listed in table 304, Rule 299.6316, enter the hazardous waste number(s) from the table		

SECTION D. HAZARDOUS WASTE BASED ON CHARACTERISTICS

Ignitable Wastes	Test Results	Parameters	Reference
5a. Liquid flash point test (aqueous solutions containing less than 24% alcohol by volume are excluded from this test).	____ to ____ °c	Flash Pt. 60°c	299.6201 (c) (i)
5b. Non-liquid — Is it ignitable based on conditions stated in the reference?	☐ Yes ☒ No	See Reference	299.6201 (c) (ii)
5c. Compressed gas — Is the waste a flammable compressed gas as defined in the reference?	☐ Yes ☒ No	See Reference	49 CFR § 173.300
5d. Oxidizer — Is the waste an oxidizer as defined in the reference?	☐ Yes ☒ No	See Reference	49 CRF § 173.151
5e. Enter "D001", as the hazardous waste number if the waste exceeds one or more of the parameters listed or meets the definition of a hazardous waste based on the reference			

Corrosive Wastes (concentrated salt solutions are by definintion not coorosive)	Test Results	Parameters	Reference
6a. Aqueous Solution — ph test	____ ph	See Reference	299.6201 (a) (i)
6b. Liquid-Steel (type SAE 1020) corrosion test	____ mm/yr	Rate 6.35 mm/yr	299.6201 (a) (ii)
6c. Albino rabbit skin test — Is the tissue destroyed or irreversibly changed?	☐ Yes ☒ No	See Reference	229.6201 (a) (iii) & 49 CFR § 173.240
6d. Enter "D002", as the hazardous waste number if the waste exceeds one or more of the parameters listed			

7. Reactive wastes

7a. Is the waste normally unstable and capable of undergoing violent chemical or physical change without detonating?	☐ Yes ☒ No
7b. Does it react with water forming potentially explosive mixtures with water?	☐ Yes ☒ No
7c. When mixed with water, does it generate toxic gases, vapors, or fumes?	☐ Yes ☒ No
7d. Is it a sulfide or cyanide bearing waste which when exposed to ph conditions between 2 and 12.5, can generate toxic gasses, vapors, or fumes?	☐ Yes ☒ No
7e. Is the waste capable of detonation or explosive reaction when subjected to a strong initiating source or if heated under confinement?	☐ Yes ☒ No

— over —

7f. Is the waste capable of detonation or explosive decomposition or reaction at standard temperature and pressure? ☐ Yes ☒ No

7g. Is the waste a forbidden explosive as defined in 49 CFR § 173.51? ☐ Yes ☒ No

7h. Is the waste a Class A explosive as defined in 49 CFR § 173.53? ☐ Yes ☒ No

7i. Is the waste a Class B explosive as defined in 49 CFR § 173.88? ☐ Yes ☒ No

7j. If the answer to any of the questions 7a through 7i is yes, enter "D003", as the hazardous waste number. ____

8. EPA Toxic Wastes — Upon obtaining an extract of the waste as described on 40 CFR § 261, Appendix II, test for the components listed in Table 303, Rule 299.6315. For each component material that exceeds the extract concentration listed in the table, enter the hazardous waste number(s) and the tested concentration(s):

°Hazardous Waste No.	Concentration
____	____ mg/l
____	____ mg/l
____	____ mg/l
____	____ mg/l

SECTION E. PHYSICAL STATE AT 25°

9. What is the average density of the material? 8 lbs/gal

10. Solids: Does the material produce dust if exposed to air movement? ☐ Yes ☐ No

11. Liquid — Sludge: What is the percent solids? ____ %
Do the solids settle out? ☐ Yes ☐ No
Can the material be pumped? ☐ Yes ☐ No
Can the material be poured.? ☐ Yes ☐ No

12. Liquid: At what temperature does it freeze? ____ °C

13. Gases: What is the maximum pressure of the container? ____ PSIG

SECTION F. OTHER INFORMATION:

14. What is the maximum quantity of this waste that is generated per month? 200 kg.

15. If the only hazardous waste numbers listed on this form are the numbers that have been entered for Item 3, enter the numbers in the space provided if the component concentration (Item 3) and the quantity of the waste generated (Item 14) cause the waste to be considered as a notification waste based on R 299.6201 (1) (g) (iii) and (iv), *figure A* of R299.6201(2), or *figure B* of R299.6201 (3): ____ ____ ____

NOTE: If the hazardous waste numbers that have been entered under Item 3, begin with the letter "P" use *figure A* to determine if it is a notification waste. If the number begins or ends with the letter "U" use *figure B*.

16. Are the hazardous wastes listed on this form disposed of onsite? ☐ Yes ☒ No

17. If the waste is a hazardous waste, is it exempt under the small quantity exemptions pursuant to R 299.6203(2) and (3)? ☐ Yes ☒ No

18. If tests were conducted in the evaluation of the waste, all of the following information shall be transmitted to the Department of Natural Resources with the waste characterization Record:

(a) The sampling procedure and the reasons for determining that the sample is representative of the waste

(b) The results of all tests conducted.

(c) The accuracy and precision of any test conducted.

SECTION G. U.S. DEPT. OF TRANSPORTATION REPORTING REQUIREMENTS

Hazardous Material Description and Shipping Name
Hazardous Waste, Solid, n.o.s.

Hazard Class
ORM-E

UN/DA ID No.
NA 9189

Special Handling and Shipping Requirements

If the waste is hazardous and not exempt or excluded from management, or is a notification waste, send the completed form to the Department of Natural Resources, Office of Hazardous Waste Management, P.O. Box 30038, Lansing, MI 48909.

Chester P. Jarema
C. P. Jarema (Signature)

Analytical Chemist (Title)

9-15-83 (Date)

	B-81	B-82	B-83	B-84
Hydrocarbons	60	100	90	25
Arom. Hydrocarbons			10	4
Esters, acids, ketones				1
Phenols				
Aliph. amines				
Alcohols				
Dodecyl succ. anhyd.	40			
Surfactants				46
Silicone oil				18
Arom. phosphates				1
Propyl phosphazene				
Chlorobenzene				
Dowtherm				
Mercaptans				
Toluene diisocyanate				
Mn gasoline additive				
Water				
Others				5

	B-85	B-86	B-87	B-88	B-89	B-90	B-91	B-92	B-93	B-94	B-95	B-96
Hydrocarbons	100	95	100	100			45	100	100	100		100
Arom. hydrocarbons		5										
Alcohols							55				100	
Arom. amines						100						
Tetramethoxypropane					100							

	B-97	B-98	B-99	B-100	B-101							
Hydrocarbons	100		100	65	100							
Arom. hydrocarbons												
Alcohols		100		35								

LP-18R

Di-tert-butylphenol and derivatives	23 lbs
Thio-bis-2-methyl-6-butylphenol	18 lbs
Aryl phosphates and phosphites	13 lbs
Misc. long chain alcohols	2 lbs
Organometallic and misc. inorganics (Pb, Ca, Zn, Bi)	8 lbs
Zinc Oxide	11 lbs
Zinc dithiocarbamate	2 lbs
Thiazole-type lube additive	1 lb
	78 lbs

Contained S - c.a. 2.1 lbs

LP-23R

Dimethylphenol	115 lbs
Mercaptobenzothiazole and other sulfur compounds	10 lbs
Sodium cyanide	7 lbs
Nitro methylpropanediol	2 lbs
m-Phenylenediamine	1 lb
	135 lbs

Contained S - c.a. 2 lbs

LP-84R

Dimethylphenol	10 lbs
Butylated phenols	7 lbs
p-Cresol	4 lbs
Benzoquinone	4 lbs
Acetamide	4 lbs
Camphor and camphoric acid	3 lbs
Butylhydroquinone	3 lbs
Butylidinebis(butylcresol)	3 lbs
N-bromosuccinimide and other Br compounds	2.9 lbs
Caprolactam	2 lbs
Colloidol silica	2 lbs
Biphenol	2 lbs
Butyl pyrocatechol	1.5 lbs
Carbowax 550	1 lb
Chlorinated aromatics	1 lb
Aluminum chloride	1 lb
Dimethylbismuth	1 lb
Bis(nitrophenylmethane)	1 lb
Aniline hydrochloride	1 lb
Benzylaminophenol	1 lb
Camphene	1 lb
Bisphenol-A	1 lb
Other organics	1 lb
	59 lbs

Contained Br - c.a. 1.6 lb

LP-85R

Misc. Stock Room organics	7 lbs
Ethylenediamine tetraacetic acid	7 lbs
Dichloronitroethane	4 lbs
Camphene	4 lbs
Methyl bromoacetate	3.3 lbs
Butylbenzoic acid	2 lbs
Hydroxyethyl urea	2 lbs
Chloroacetic acid	2 lbs
Cyanuric chloride	2 lbs
Catechol	2 lbs
Butylcatechol	1 lb
Chlorodinitroaniline	1 lb
Chloroacetyl chloride	1 lb
Calcium stearate	1 lb
Benzyl chloroformate	1 lb
Glycolonitrile	1 lb
Crotyl bromide	0.9 lb
Misc. thio phenols	0.5 lb
	43 lbs

Contained Br - c.a. 2.2 lbs

Contained S - c.a. 0.1 lb

LP-88R

Spent pelletized catalyst (Pt)	25 lbs
Misc. Stock Room organic chemicals	6 lbs
Cellulose acetate	3 lbs
Diaminodiphenylamine	2 lbs
Dichlorophenylphosphine	2 lbs
Cyclohexenedicarboxylic anhydride	2 lbs
Dextrin	2 lbs
Dichloromaleic anhydride	2 lbs
Diacetyl phenylenediamine	1 lb
Diaminotoluene	1 lb
Dichlorobenzaldehyde	1 lb
Dichloronaphthol	1 lb
Chloroacetanilide	1 lb
Catechol	1 lb
Chlorophenol	1 lb
Chloronitrobenzoic acid	1 lb
Ethyl dichlorothiophosphate	0.7 lb
	53 lbs

Contined S - c.a. 0.1 lb

LP-92R

Misc. organic pigments and dyes	4 lbs
Melamine	3 lbs
Mannitol	3 lbs
Methylamine hydrochloride	3 lbs
Methyl stearate	2 lbs
Nitrodiphenyl	2 lbs
Ethylene carbonate	2 lbs
Methyl anisate	2 lbs
Misc. Stock Room organics	2 lbs
Palm oil	1 lb
Nitrophenol	1 lb
	25 lbs

LP-94R

Misc. Stock Room organic chemicals	11 lbs
Hydroxymethyldibutylphenol	8 lbs
Isocyanate prepolymer	8 lbs
Misc. Stock Room thio compounds	7 lbs
Silicic acid	6 lbs
Sodium ethoxide	5 lbs
Sodium oxalate	2 lbs
Isopropylidene diphenol	2 lbs
Methyl stearate	2 lbs
Dibutylphenol-formaldehyde adducts	2 lbs
Rescorcinol	1 lb
Amino(hydroxymethyl(propanediol)	1 lb
Benzoic sulfoamide	1 lb
Butylurea	1 lb
Methylaminophenyl sulfate	1 lb
	58 lbs

Contained S - c.a. 1.6 lb

LP-105

Polybutenes	7 lbs
Dibutylphenol derivatives	7 lbs
Oleamide	6 lbs
Samples of misc. friction reduction modifiers	5 lbs
Misc. oil additive samples	5 lbs
Paraformaldehyde	2 lbs
Fatty acid	2 lbs
Polyvinylpyrodidone	2 lbs
Alamine 46	2 lbs
Lauryl acid phosphate	2 lbs
C_{20} Alcohols	2 lbs
Sulfurized phenolic lube additives	1 lb
Cresol	1 lb
Polyamine (TETA)	1 lb
	45 lbs

Contained S - c.a. 0.2 lb

STATE OF MICHIGAN

WASTE DISPOSAL MANIFEST

☒ Act 64 Waste (HAZARDOUS) ☐ Act 136 Waste (OTHER) MI 01001 5

IDENTIFICATION

Generator Name	Primary Transporter's Name	Treatment, Storage or Disposal Facility
Ethyl Corporation	Great Lakes Environmental Services	SCA Chemical Services, Inc.
Site Address	**Transporters Address**	**Facility Address**
1600 W. Eight Mile Road Femdale, MI 48220	22077 Mound Road Warren, MI 48090	11700 S. Stony Island Ave. Chicago, IL 60617
Phone Number	**Phone Number**	**Phone Number**
(313) 399-9600	(313) 758-0400	(312) 646-5700
Generator's Site EPA I.D. Number	**Transporter's EPA I.D. Number**	**Facility Site EPA I.D. Number**
MI D 0 4 1 8 0 3 1 2 3	M I D 0 8 7 4 7 8 5 7 4	I L D 0 0 0 6 7 2 1 2 1

If more than one Transporter is to be utilized, give the Name and EPA I.D. Number of each:

GENERATOR COMPLETES

WASTE INFORMATION

LOT NO.	U.S. D.O.T. Shipping Name	D.O.T. Hazard Class	U.N./N.A. No.	Haz. Class Code	Container No.	Container Type	Form: Solid	Form: Liquid	Form: Gas	Form: Sludge	Weight or Volume	Units	Hazardous Waste Number
1.	Hazardous Waste, Solid, n.o.s.	ORM-E	NA 9189		54	DR	X				2970	Gal.	D000
2.													
3.													
4.													
5.													
6.													

COMMENTS

Include Safety precautions and special handling instructions.

1. 55-gal. Fiber drums of organic waste in plastic and glass containers. (Labpacks)
LP No. 46-83, 86, 87, 89-91, 93, 95-104.

GENERATOR CERTIFICATION: I certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and U.S. EPA. I further certify that the information contained on the manifest is factual. I understand that the failure to accurately report all information requested by the manifest constitutes a violation of 1979 PA64 and/or PA136. I further understand that this manifest may be used in administrative and court proceedings.

Generator Signature ① Chester P. Joyner — Date Shipped MO. DAY YEAR: 09 07 83

TRANSPORTER COMPLETES

HAULER'S CERTIFICATION: I certify acceptance of the above identified wastes for transportation. I further certify that I shall deliver the hazardous wastes, together with this manifest, only to the destination specified by the generator on this manifest. I understand that this manifest can be used in administrative and court proceedings.

Transporter Vehicle I.D. No. No. 1: 830211 — Transporter Signature ② Jerry Schuber — Date(s) Received: 09 07 83

Subsequent Transporter Vehicle I.D. No's — Subsequent transporter(s) signature(s) ③

If the shipment cannot be delivered, describe the reasons for non-delivery.

TSDF COMPLETES

TSDF CERTIFICATION: I certify receipt at this facility of the above identified wastes and that this facility is licensed to accept those wastes. I also certify that the wastes were accompanied by a manifest properly certified by both the generator and hauler and that this facility is the destination indicated on the manifest. I understand that this manifest can be used in administrative and court proceedings.

TSDF Signature ④ — ☐ Accepted ☐ Rejected — Date Received

Facility Site EPA I.D. Number

Describe any significant discrepancies between manifest and shipment.

ALL SPILLS MUST BE REPORTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM AT 800—294-4706, 24 HOURS PER DAY AND THE NATIONAL RESPONSE CENTER AT 800—424-8802

MDNR 1ST COPY

0100115

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF HAZARDOUS WASTE MANAGEMENT
BOX 30030
LANSING, MICHIGAN 48909

WASTE CHARACTERIZATION REPORT

SECTION A. WASTE GENERATOR IDENTIFICATION INFORMATION

EPA IDENTIFICATION NUMBER: 0410803123

BUSINESS NAME: Ethyl Corporation

ADDRESS: 1600 W. Eight Mile Road

CITY: Ferndale, STATE: Michigan, ZIP CODE: 48220

NAME AND TITLE OF CONTACT PERSON: C. P. Jarema

TELEPHONE NUMBER: (313) 399-9600

SECTION B. COMMON NAME OF THE WASTE

ENTER TYPE OF WASTE (i.e. common name) characterized on this form and the source or process from which it was produced.

Organic Laboratory Waste - Solid

SECTION C. LISTED HAZARDOUS WASTE

	HAZARDOUS WASTE NO.
1. If the waste is listed in tables 301 a, b, c, or d of Rule 299.6308, 299. 6309, 299.6310 or 299.6311, respectively or table 305 of Rule 299.6317, enter the hazardous waste number from the appropriate table	
2. If the waste is a discarded commercial chemical product, off-specification specie, container or spill residue of a substance listed in Table 302a, Rule 299.6312, or Table 302 b or c, Rule 299.6313 or 299.6314, respectively, enter the hazardous waste number from the applicable table	
3. If waste *contains* any substances listed in table 302 a, b, or c, Rule 299.6312, 299.6313,or 299.6314, respectively, enter their hazardous waste number(s) from the applicable table AND record the component concentrations. (COMPONENT CONCENTRATION: ____ to ____ %)	
4. If the waste contains viable desease-causing agents listed in table 304, Rule 299.6316, enter the hazardous waste number(s) from the table	

SECTION D. HAZARDOUS WASTE BASED ON CHARACTERISTICS

	Test Results	Parameters	Reference
5. Ignitable Wastes			
5a. Liquid flash point test (aqueous solutions containing less than 24% alcohol by volume are excluded from this test).	____ to ____ °c	Flash Pt. 60°c	299.6201 (c) (i)
5b. Non-liquid — Is it ignitable based on conditions stated in the reference?	☐ Yes ☒ No	See Reference	299.6201 (c) (ii)
5c. Compressed gas — Is the waste a flammable compressed gas as defined in the reference?	☐ Yes ☒ No	See Reference	49 CFR § 173.300
5d. Oxidizer — Is the waste an oxidizer as defined in the reference?	☐ Yes ☒ No	See Reference	49 CRF § 173.151
5e. Enter "D001", as the hazardous waste number if the waste exceeds one or more of the parameters listed or meets the definition of a hazardous waste based on the reference			
6. Corrosive Wastes (concentrated salt solutions are by definintion not coorosive)	Test Results	Parameters	Reference
6a. Aqueous Solution — ph test	____ ph	See Reference	299.6201 (a) (i)
6b. Liquid-Steel (type SAE 1020) corrosion test	____ mm/yr	Rate 6.35 mm/yr	299.6201 (a) (ii)
6c. Albino rabbit skin test — Is the tissue destroyed or irreversibly changed?	☐ Yes ☒ No	See Reference	229.6201 (a) (iii) & 49 CFR § 173.240
6d. Enter "D002", as the hazardous waste number if the waste exceeds one or more of the parameters listed			

7. Reactive wastes

7a. Is the waste normally unstable and capable of undergoing violent chemical or physical change without detonating?	☐ Yes ☒ No
7b. Does it react with water forming potentially explosive mixtures with water?	☐ Yes ☒ No
7c. When mixed with water, does it generate toxic gases, vapors, or fumes?	☐ Yes ☒ No
7d. Is it a sulfide or cyanide bearing waste which when exposed to ph conditions between 2 and 12.5, can generate toxic gasses, vapors, or fumes?	☐ Yes ☒ No
7e. Is the waste capable of detonation or explosive reaction when subjected to a strong initiating source or if heated under confinement?	☐ Yes ☒ No

— over —

7f. Is the waste capable of detonation or explosive decomposition or reaction at standard temperature and pressure? ☐ Yes ☒

7g. Is the waste a forbidden explosive as defined in 49 CFR § 173.51? ☐ Yes ☒ No

7h. Is the waste a Class A explosive as defined in 49 CFR § 173.53? ☐ Yes ☒ No

7i. Is the waste a Class B explosive as defined in 49 CFR § 173.88? ☐ Yes ☒ No

7j. If the answer to any of the questions 7a through 7i is yes, enter "D003", as the hazardous waste number. ____

8. EPA Toxic Wastes — Upon obtaining on extract of the waste as described on 40 CFR § 261, Appendix II, test for the components listed in Table 303, Rule 299.6315. For each component material that exceeds the extract concentration listed in the table, enter the hazardous waste number(s) and the tested concentration(s):

Hazardous Waste No.	Concentration
____	____ mg/l
____	____ mg/l
____	____ mg/l
____	____ mg/l

SECTION E. PHYSICAL STATE AT 25°

9. What is the average density of the material? 8 lbs/gal.

10. Solids. Does the material produce dust if exposed to air movement? ☒ Yes ☐ No

11. Liquid — Sludge: What is the percent solids? ____ %
Do the solids settle out? ☐ Yes ☐ No
Can the material be pumped? ☐ Yes ☐ No
Can the material be poured.? ☐ Yes ☐ No

12. Liquid: At what temperature does it freeze? ____ °C

13. Gases: What is the maximum pressure of the container? ____ PSIG

SECTION F. OTHER INFORMATION:

14. What is the maximum quantity of this waste that is generated per month? 200 kg.

15. If the only hazardous waste numbers listed on this form are the numbers that have been entered for Item 3, enter the numbers in the space provided if the component concentration (Item 3) and the quantity of the waste generated (Item 14) cause the waste to be considered as a notification waste based on R 299.6201 (1) (g) (iii) and (iv), *figure A* of R299.6201(2), or *figure B* of R299.6201 (3): ____

NOTE: If the hazardous waste numbers that have been entered under Item 3, begin with the letter "P" use *figure A* to determine if it is a notification waste. If the number begins or ends with the letter "U" use *figure B*.

16. Are the hazardous wastes listed on this form disposed of onsite? ☐ Yes ☒

17. If the waste is a hazardous waste, is it exempt under the small quantity exemptions pursuant to R 299.6203(2) and (3)? ☐ Yes ☒ No

18. If tests were conducted in the evaluation of the waste, all of the following information shall be transmitted to the Department of Natural Resources with the waste characterization Record:

(a) The sampling procedure and the reasons for determining that the sample is representative of the waste

(b) The results of all tests conducted.

(c) The accuracy and precision of any test conducted.

SECTION G. U.S. DEPT. OF TRANSPORTATION REPORTING REQUIREMENTS

Hazardous Materials Description and Shipping Name
Hazardous Waste, Solid, n.o.s.

Hazard Class
ORM-E

UN/DA ID No.
NA 9189

Special Handling and Shipping Requirements

If the waste is hazardous and not exempt or excluded from management, or is a notification waste, send the completed form to the Department of Natural Resources, Office of Hazardous Waste Management, P.O. Box 30035, Lansing, MI 48909.

C. P. Jarema — Signature

Analytical Chemist — Title

9/7/83 — Date

LP-46

C_{20} Alcohols	100 lbs
Alkylated phenols	30 lbs
Toluene sulfonic acid	10 lbs
Hydroxyethylated tetrabromoxylene	5 lbs
	145 lbs

Contained S - c.a. 1.9 lb

Contained Br - c.a. 3.0 lbs

LP-47

C_{20} Alcohols	75 lbs
Alkylated phenols	10 lbs
Dibutylhydroxyphenyl phosphite	45 lbs
Phenolic resins	3 lbs
	133 lbs

LP-48

Dibutylhydroxybenzyl alcohol	150 lbs
Toluene sulfonic acid and other sulfur compounds	4 lbs
Tetrabromoxylene	0.5 lb
Hexabromoxylene	0.3 lb
Misc. bromoaromatics	1.0 lb
	156 lbs

Contained S - c.a. 0.7 lb

Contained Br - c.a. 1.4 lb

LP-49

Dimethyl and dibutyl phenols	95 lbs
C_{20} Alcohols	35 lbs
Stearic acid	6 lbs
Ethoxylated tetrabromoxylene	5 lbs
Di-C_{20}-dibutylhydroxybenzyl-phosphorodithioate	7 lbs
Anthraquinone sulfonate	0.5 lb
Benzoic sulfonamide	1.0 lb
Thiosemicarbazode	1.0 lb
Misc. org. sulfur compounds	0.2 lb
	151 lbs

Contained S - c.a. 0.8 lb

Contained Br - c.a. 3 lbs

LP-50

Dimethylphenol	70 lbs
Ashless dispersants	15 lbs
Org. phosphates and phosphites	12 lbs
Tetrabromoxylene derivatives	4.5 lbs
Alkylated phenols	4 lbs
	106 lbs

Contained Br - c.a. 3.4 lbs

LP-51

Dimethylphenol	40 lbs
Paraformaldehyde	10 lbs
Fatty acids (long chain)	2 lbs
Misc. Stock Room chemicals and samples	30 lbs
Diethylthiophosphate residues	5 lbs
Misc. sulfur compounds	1 lb
Divinylbenzene	1 lb
	89 lbs

Contained S - c.a. 1.1 lb

LP-52

Dibutylphenol and its formaldehyde adducts	174 lbs
Aromatic amines	10 lbs
Di-C_{20}-dibutylhydroxybenzyl-phosphorodithioate	7 lbs
Toluene sulfonic acid	3 lbs
Diethyl tetrabromoxylene phosphonate	2 lbs
Bromodibutylphenol	6 lbs
	202 lbs

Contained S - c.a. 1.1 lb

Contained Br - c.a. 2.9 lbs

LP-53

Samples of viscous hydrocarbon oils	35 lbs
Alkylated phenols	25 lbs
Ashless dispersants	10 lbs
Aromatic amines	5 lbs
Decabromobiphenyls	3 lbs
	78 lbs

Contained Br - c.a. 2.5 lbs

LP-54

Activated charcoal	50 lbs
Dibutylbenzoquinone	15 lbs
Di-C_{20}-dibutylhydroxybenzyl-phosphorodithioate	15 lbs
C_{20} Alcohols	4 lbs
Polyamides	2 lbs
Methyl oleate	1 lb
Phenol	1 lb
Misc. lab. sample bottles	1 lb
	89 lbs

Contained S - c.a. 1.1 lb

LP-55

Ashless dispersants	60 lbs
Activated charcoal	40 lbs
Alkylated phenols	45 lbs
Alkoxylated phenols	20 lbs
Phosphorus sesquisulfide	3 lbs
	168 lbs

Contained S - c.a. 1.1 lb

LP-56

Dimethylphenol	40 lbs
Dibutylphenol-formaldehyde adducts	40 lbs
Alkoxylated phenols	35 lbs
Di-C_{20}-dibutylhydroxybenzyl-phosphonodithioate	20 lbs
Alkylated phenols	12 lbs
	147 lbs

Contained S - c.a. 1.4 lbs

LP-57

Dibutylethylphenol	45 lbs
Ashless dispersants	25 lbs
Dibutyl phenyl sulfide	2 lbs
	72 lbs

Contained S - c.a. 0.1 lb

LP-58

Ashless dispersants	35 lbs
Alkylated phenols	30 lbs
Long chain alcohols	25 lbs
Phosphonitrilic chloride	10 lbs
Organophosphates and phosphites	10 lbs
Bromo-chloro aromatics	10 lbs
	120 lbs

Contained Br - c.a. 4.5 lbs

LP-59

Lead benzoate	20 lbs
Stearic acid and esters	15 lbs
Polystyrene	13 lbs
Tribenzylamine and other N-compounds	8 lbs
Trimethylphenol and xylanols	6 lbs
Metal stearates, alkoxides, naphthenates	3 lbs
Alkylated anilines	1 lb
Toluene sulfonic acid and other S-compounds	1 lb
Polyvinylchloride	1 lb
Other organic samples	1 lb
	69 lbs

Contained S - c.a. 0.2 lb

LP-60

Organic pigments and dyes	43 lbs
Fatty amines	15 lbs
Dodecyl cresol and other phenolics	10 lbs
Activated charcoal	5 lbs
Misc. thio compounds	1 lb
	74 lbs

Contained S - c.a. 0.2 lb

LP-61

Sodium stearate	9 lbs
Stearic acid	5 lbs
Misc. Stock Room organic chemicals	4 lbs
Methyl cellulose	3 lbs
Starch	3 lbs
Abietic acid	2 lbs
Aluminum oleate	2 lbs
Capric acid	2 lbs
Shortening	2 lbs
Rare earth acetates	2 lbs
Succinic acid and anhydride	2 lbs
Ammonium benzoate	1 lb
Diethyl diphenyl urea	1 lb
Carbazole	1 lb
Tar acids	1 lb
Triflan	1 lb
Tartaric acid	1 lb
Polyformaldehyde	1 lb
Sodium lauryl sulfates	1 lb
	44 lbs

Contained S - c.a. 0.15 lb

LP-62

Neopentyl alcohol	50 lbs
Hexanediol	50 lbs
Di-C_{20}-dibutylhydroxybenzyl phosphonodithioate	15 lbs
Fatty acid soaps	10 lbs
Dicyclopentylphenol	5 lbs
	130 lbs

Contained S - c.a. 1.1 lb

LP-63

PVC resin	150 lbs
Di-C_{20}-dibutylhydroxybenzyl phosphonodithioate	15 lbs
	165 lbs

Contained S - c.a. 1.1 lb

Silicones	20 lbs
Dicyclopentyl phenol	10 lbs
Dibutyl ethylphenol	5 lbs
Stilbene and other Stock Room aromatics	9 lbs
Stearic acid	5 lbs
Sorbitol	5 lbs
Starch	5 lbs
Stock Room sulfur compounds (sulfonamides, etc.)	9 lbs
Chlorinated aromatics	2.5 lbs
Stannous stearate and similar samples	1 lb
Tribromobenzene and phenol	0.2 lb
	72 lbs

Contained S - c.a. 1.8 lbs

Contained Br - c.a. 0.1 lb

LP-65

Alkylated phenols	40 lbs
Polyurethane prepolymers	5 lbs
Aminonaphthol sulfonic acid	1 lb
Sulfosalycilic acid	1 lb
Sulfanilic acid	1 lb
Mercapto thiazoline	1 lb
Mercapto benzoic acid	1 lb
Phenyl sulfonate	1 lb
Phenyl thiazine	1 lb
Carbamates and thioureas	2.5 lbs
Dibromocumene	6 lbs
	61 lbs

Contained S - c.a. 1.5 lb

Contained Br - c.a. 3.6 lbs

LP-66

Dibutylphenol-formaldehyde adducts	40 lbs
Methylenebis(dibutylphenol) and its borate ester	40 lbs
Alkylated phenols	10 lbs
	90 lbs

LP-67

Dibutylbenzoquinone	20 lbs
Misc. laboratory thio compounds	7 lbs
Mg Stearate	1 lb
Butanediol	1 lb
	29 lbs

Contained S - c.a. 1.1 lb

LP-68

Alkylated phenols	20 lbs
Methylenebis(dialkylanilines)	15 lbs
Toluene diamines	10 lbs
Phosphorus sesquisulfide	4 lbs
	49 lbs

Contained S - c.a. 1.8 lb

LP-69

Lube additive (C, H, O) samples	75 lbs
Misc. lab. thio compounds	10 lbs
	85 lbs

Contained S - c.a. 1.5 lb

LP-70

Lube additive (C, H, O) samples	60 lbs
Spent charcoal catalysts	43 lbs
Cellulose	5 lbs
Misc. lab. thio compounds	6 lbs
	114 lbs

Contained S - c.a. 0.9 lb

LP-71

Alkylated polystyrene samples	125 lbs
	125 lbs

LP-72

Hydrocarbon solids	55 lbs
Lube additive samples	30 lbs
Dibutylphenol-formaldehyde compounds	15 lbs
Brominated phenols	6 lbs
Reagent samples of sulfonates, sulfates, etc.	1.7 lbs
	108 lbs

Contained Br - c.a. 4.2 lbs

Contained S - c.a. 0.3 lb

LP-73

Petroleum wax	50 lbs
Dibutylphenol-formaldehyde adducts	30 lbs
Butylated phenolic antioxidant	20 lbs
Brominated phenols	5 lbs
	105 lbs

Contained Br - c.a. 3.5 lbs

LP-74

Lube friction modifier samples	20 lbs
Heavy lubricants	40 lbs
Alkaloid oligomers	15 lbs
Dibutylphenol	20 lbs
Long chain Mg sulfonates	20 lbs
Misc. lube additive samples	10 lbs
Misc. sulfur-containing additives	5 lbs
	130 lbs

Contained S - c.a. 2.1 lbs

LP-75

Dimethylphenol	125 lbs
Misc. thio compounds	1 lb
	126 lbs

Contained S - c.a. 0.2 lb

LP-76

Dimethylphenol	130 lbs
Thiobis(butyl-o-cresol)	10 lbs
	140 lbs

Contained S - c.a. 0.9 lb

LP-77

Dimethylphenol	120 lbs
Misc. Stock Room thio compounds	5 lbs
Methane sulfonyl chloride	4 lbs
Tetrabromoxylene and derivatives	6 lbs
	135 lbs

Contained Br - 4.6 lbs

Contained S - 1.9 lb

LP-78

Dimethylphenol	130 lbs
Misc. lab. thio compounds	10 lbs
	140 lbs

Contained S - c.a. 1.6 lb

LP-79

Dimethylphenol	40 lbs
Catechol	40 lbs
Di-C_{20}-dibutylhydroxybenzyl phosphonodithioate	2 lbs
Methane sulfonic acid	2 lbs
Benzoic sulfamide	1.5 lbs
Phenyl sulfone	2 lbs
Thiourea and other thio compounds	0.8 lb
	88 lbs

Contained S - c.a. 1.4 lbs

LP-80

Dimethylphenol	130 lbs
	130 lbs

LP-81

Dimethylphenol	80 lbs
Brominated biphenyls	4.5 lbs
	85 lbs

Contained Br - c.a. 3.2 lbs

Azobenzene	8 lbs
Benzoic acid	8 lbs
Adipic acid	7 lbs
Aluminum stearate	6 lbs.
Aminobenzoic acid	4 lbs
Anthracene	4 lbs
Aminophenol	2 lbs
Amino hydroxymethyl propanediol	2 lbs
Metal acetylacetonates and carboxylates	4 lbs
Alkylated anilines	4 lbs
Misc. chloro organic compounds	2 lbs
Nitro aromatics	8 lbs
Alkylated phenols	1 lb
Dibromobenzene	1 lb
Hexabromobenzene	0.2 lb
	61 lbs

Contained Br - c.a. 0.9 lb

Alkylamine hydrochloride	23 lbs
Hydroxymethyldibutylphenol	15 lbs
Alkylated phenols	7 lbs
Benzamide	4 lbs
Phosphonitrilic chloride	3 lbs
Methacrylate polymer	2 lbs
p-Cresol	2 lbs
Docosene and docosanol	2 lbs
Butylphenol	2 lbs
Aminobenzoic acid	2 lbs
Chlorinated organics (small samples)	3 lbs
Metal carboxylates and naphthenates	2.5 lbs
Misc. samples of aromatic compounds	6 lbs
Aminobenzene sulfonic acid	2 lbs
Anthraquinone sulfonate	1 lb
Other sulfur compounds	0.7 lb
Azobisisobutyronitrile	1.5 lb
Lead naphthenate	1 lb
Tetrabromobisphenol	0.1 lb
	80 lbs

Contained Br - c.a. 0.06 lb

Contained S - c.a. 0.7 lb

Misc. Stock Room organic solids	11 lbs
Chloroacetic acid	6 lbs
Dibutylhydroquinone	4 lbs
Isobutyryl chloride	2 lbs
Dimethylphenylenediamine oxalate	2 lbs
Diaminotoluene	2 lbs
Polystyrene	2 lbs
Chloronitrobenzene	2 lbs
Allyl methacrylate	1 lb
Trichloroacetylchloride	1 lb
Ethylene carbonate	1 lb
Cobalt acetyl acetonate	1 lb
Chlorophenol	1 lb
Dibutylmethylphenol	1 lb
p-Cresol	1 lb
Dodecaneamide	1 lb
Dimethyl isophthalate	1 lb
Dimethyl oxalate	1 lb
Diaminotoluene sulfate	1 lb
Cyanoguanidine	1 lb
Dichlorophenol	1 lb
	44 lbs

Contained Br - <0.1 lb

Contained S - c.a. 0.2 lb

Dimethylphenols	8 lbs
Misc. Stock Room organic solids	8 lbs
Methylbromoacetate	4 lbs
Sodium dibutyl dithiocarbamate	4 lbs
Dinitrobenzoic acid	3 lbs
Diphenylamine	2 lbs
Celite	2 lbs
Formanilide	2 lbs
Hydrazine	2 lbs
Hydroquinone	2 lbs
Fumaric acid	1 lb
Hexachlorobenzene	1 lb
Hexamethylene tetramine	1 lb
Chlorobenzoyl chloride	1 lb
Methyl chloroformate	1 lb
Trichlorotoluene	1 lb
Trichlorofluorodinitrobenzene	1 lb
	44 lbs

Contained Br - c.a. 2.3 lbs

Contained S - c.a. 1.2 lb

Tribromophenol	6 lbs
Rosin	6 lbs
Dimethylphenol	6 lbs
Thiourea	5 lbs
Dimethylglyoxime	4 lbs
Other Stock Room organic chemicals	4 lbs
Paraffin wax	3 lbs
Potassium tartarate	3 lbs
Sulfamic acid	2.2 lbs
Rosin amine	2 lbs
Ethylenediamine tetraacetic acid	2 lbs
Toluene sulfonic acid	1.5 lb
Pyridyl mercuric acetate	1 lb
Quinhydrone	1 lb
Sodium carboxymethyl cellulose	1 lb
Quinone	1 lb
Dimethylamine hydrochloride	1 lb
Hexadecanol	1 lb
	51 lbs

Contained Br - c.a. 4.4 lbs

Contained S - c.a. 2.7 lbs

Misc. Stock Room organics	6 lbs
Trichlorophenol	4 lbs
Glycene and ethyl ester hydrochloride	3 lbs
Tetrachlorophthalic anhydride	2 lbs
Vanillin	2 lbs
Starch	2 lbs
Zinc stearate	2 lbs
Trimethylol propane	2 lbs
Triphenol	2 lbs
Ethylphenol	2 lbs
Girard's reagent	2 lbs
Fumaric acid	2 lbs
Tetracyanoethylene	1 lb
Lithium stearate	1 lb
Terephthalic acid	1 lb
Tannic acid	1 lb
Triphenylarsine	1 lb
Ethyloctanedioic acid	1 lb
Hexanediol	1 lb
Hexamethylenetetramine	1 lb
Ethylacetanilide	1 lb
Glycolic acid	1 lb
	41 lbs

Misc. Stock Room org. chemicals	12 lbs
Maleic anhydride	8 lbs
Lauric and other fatty acids	4 lbs
Sodium methacrylate	3 lbs
Nitrilotriacetic acid and salts	3 lbs
Methoxy phenol	2 lbs
Hexachloroethane	2 lbs
Hexachlorophenol	2 lbs
Ethylene carbonate	2 lbs
Aminobenzaldehyde	2 lbs
Imidazoles	2 lbs
Pentaerythritol	1 lb
Oxamide	1 lb
Triphenylthiophosphate	1 lb
Chlorothiophenol	1 lb
Methyl acetanilide	1 lb
Hydroxylamine hydrochloride	1 lb
EDTA	1 lb
Fluorene	1 lb
Hexadecanol	1 lb
Hexamethylenetetramine	1 lb
Dimethylamine hydrochloride	1 lb
	53 lbs

Contained Br - c.a. 0.4 lb

Contained S - c.a. 0.4 lb

LP-93

Phenol	14 lbs
Misc. organic Stock Room chemicals	12 lbs
Phthalic acid, anhydride, imide	8 lbs
Palmitic acid	4 lbs
Paraformaldehyde	4 lbs
Methyl sulfonyl chloride	4 lbs
Pentachlorobenzotrifluoride	2 lbs
Pentaerythritol	1 lb
Acetoaniline	1 lb
Acrylamide	1 lb
Naphthol	1 lb
Phenylphenol	1 lb
Phthalonitrile	1 lb
	54 lbs

LP-95

Nitroacetanilide	4 lbs
Nitroaniline	3 lbs
Phenylenediamine	3 lbs
Urea	2 lbs
Misc. Stock Room organics	2 lbs
Methyl hydroxystearate	1 lb
Methyl naphthalene	1 lb
Oxamide	1 lb
Sulfosalycilic acid	1 lb
Misc. Stock Room sulfur compounds	1 lb
	19 lbs

Contained Br - c.a. 0.1 lb

Contained S - c.a. 0.4 lb

Misc. Stock Room organics	6 lbs
Dibutyl sulfide	6 lbs
Polyester	5 lbs
Phenylenediamine	4 lbs
Pentadione complexes	4 lbs
Paraformaldehyde	4 lbs
Methyl stearate	4 lbs
Methylene dianiline	3 lbs
Palmitic acid	2 lbs
Recovered Ni-Al catalyst	2 lbs
Polystyrene	2 lbs
Lithium stearate	2 lbs
Phthalonitrile	1 lb
Methyl gluconide	1 lb
Phenylphenol	1 lb
Polyethylene	1 lb
Methyl gallate	1 lb
Myristic acid	1 lb
Piperazine hydrate	1 lb
	51 lbs

Contained S - c.a. 1.3 lb

Misc. lab. samples and Stock Room chemicals	6 lbs
Nitrophenol	6 lbs
Charcoal	6 lbs
Recovered Ni/Al catalyst	6 lbs
Triphenylphosphate	6 lbs
Naphthol	4 lbs
Phenothiazine	3 lbs
Grease	2 lbs
Misc. thiols	2 lbs
Misc. Stock Room sulfur compounds	2 lbs
Polyphosphorous acid	2 lbs
Methyl sulfone	2 lbs
Sodium cyanate	1 lb
Phenylene diamine hydrochloride	1 lb
Myristic acid	1 lb
Azobis(methylpropionitrile)	1 lb
	51 lbs

Contained S - c.a. 1.9 lb

LP-98

Misc. Stock Room thiols	15 lbs
Styrene oxide	9 lbs
Tars	5 lbs
Silicone oil	4 lbs
Glychlor RG	3 lbs
N-Bromosuccinimide	2 lbs
Pancreatin	2 lbs
Vinyl pyridine	1 lb
Misc. organic samples	1 lb
	42 lbs

Contained Br - c.a. 0.9 lb

Contained S - c.a. 2.3 lbs

Oil-soluble dyes	22 lbs
Di-C_{10}-thio(dibutylhydroxy)benzyl phosphonothioate	10 lbs
Misc. Stock Room organics	8 lbs
Molybdenum hexacarbonyl	3 lbs
Calcium carbide	3 lbs
Charcoal	2 lbs
Boron trifluoride-amine complex	2 lbs
Phenylisocyanate	1 lb
Butyl lithium	1 lb
Benzidine	1 lb
	53 lbs

Contained S - c.a. 0.8 lb

Contained Br - c.a. 0.1 lb

LP-100

Plastic additives	11 lbs
Misc. Stock Room organics	7 lbs
Spent catalysts	4 lbs
Misc. organometallics	4 lbs
Cyclopentadienenickel	3 lbs
Ammonium isothiocyanate	3 lbs
Dichlorobenzidine	2 lbs
Charcoal	2 lbs
Octyl phthalate	1 lb
Dodecyl gallate	1 lb
Phosphorus sesquisulfide	1 lb
Diethyl thiourea	1 lb
Dithiobisstearyl propionate	1 lb
Dithiobenzene thiazole	1 lb
Mercapto benzothiazole	1 lb
Sodium aminonaphtho disulfonic acid	1 lb
	44 lbs

Contained S - c.a. 2.6 lbs

LP-101

Di-C_{10}-dibutylhydroxybenzyl phosphonodithioate	25 lbs
Tetrabutylbiphenol	15 lbs
Carbon catalyst	10 lbs
Dimethyl itaconate	10 lbs
Misc. lab. organics and Stock Room chemicals	7 lbs
Methylenebis(dibutylphenol)	5 lbs
Aluminum chloride (organic-contaminated)	5 lbs
Ethyleneglycol methacrylate	5 lbs
Hydrazine	2 lbs
Anilines	2 lbs
Alkylated anilines	2 lbs
Toluenediamine	2 lbs
Ethylhexylpyrophosphate	2 lbs
Amides	1 lb
Pinene	1 lb
Dibutylcresol	1 lb
Dicyclohexylcarbodiimide	1 lb
	96 lbs

Contained Br - c.a. 0.1 lb

Contained S - c.a. 2.1 lbs

LP-102

Misc. Stock Room organic chemicals	12 lbs
Glue	8 lbs
C_{20} Alcohols	4 lbs
Tetraethyltin	4 lbs
Tetraphenyllead	4 lbs
Biphenol	2 lbs
Dipropyltin dichloride	1 lb
Petrolatum	1 lb
Phenol	1 lb
Bromophenol	1 lb
Amberlite resin	1 lb
Misc. sulfur compounds	1 lb
	40 lbs

Contained Br - c.a. 1.1 lb

Contained S - c.a. 0.2 lb

LP-103

C_{20} Alcohols	15 lbs
Polyisobutenyl succinimides	11 lbs
Chlorophenyl hydroxyphenyl sulfide phosphates	9 lbs
Polystyrene powder	5 lbs
Dimethylphenol	4 lbs
Butylphenol	4 lbs
Phenyl borates	4 lbs
Misc. organic sulfides	2 lbs
Acetyl ferrocene	2 lbs
Oil blends	2 lbs
Dibutylphenol-formaldehyde	2 lbs
Manganese gasoline additive	1 lb
Molylube	1 lb
Misc. organic samples	1 lb
	63 lbs

Contained S - c.a. 1.8 lb

LP-104

Polymethylene anilines	25 lbs
Misc. laboratory samples	5 lbs
Toluidine derivatives	4 lbs
Hydroxymethyl dibutylphenols	4 lbs
Dibutylphenol-formaldehyde	4 lbs
Phosphides (Zu, Ca, Cu)	3 lbs
Titanium	2 lbs
Butylsulfone	2 lbs
Mercaptobenzothiazole	2 lbs
Dimethylthiocarbamyl disulfide	2 lbs
Lithium oxide	1 lb
Chlorobenzene sulfonic acid	1 lb
Camphor sulfonic acid	1 lb
Other organosulfur compounds	1 lb
	57 lbs

Contained S - c.a. 2.3 lbs

STATE OF MICHIGAN

WASTE DISPOSAL MANIFEST

☒ Act 64 Waste (HAZARDOUS) ☐ Act 136 Waste (OTHER) **MI 01001**

IDENTIFICATION (GENERATOR COMPLETES)

Generator Name	Primary Transporter's Name	Treatment, Storage or Disposal Facility
Ethyl Corporation	Nelson Industrial Services	Nelson Industrial Services
Site Address	**Transporters Address**	**Facility Address**
1600 W. Eight Mile Road Femdale, Michigan 48220	12345 Schaefer Detroit, Michigan 48227	12345 Schaefer Detroit, Michigan 48227
Phone Number	**Phone Number**	**Phone Number**
(313) 399-9600	(313) 933-1500	(313) 933-1500
Generator's Site EPA I.D. Number	**Transporter's EPA I.D. Number**	**Facility Site EPA I.D. Number**
MID041803123	MID098011992	MID098011992

If more than one Transporter is to be utilized, give the Name and EPA I.D. Number of each:

WASTE INFORMATION

LOT NO.	U.S. D.O.T. Shipping Name	D.O.T. Hazard Class	U.N./N.A. No.	Haz. Class Code	Container No.	Container Type	Solid	Liquid	Gas	Sludge	Weight or Volume	Units	Hazardous Waste Number
1.	Hazardous Waste, Liquid, n.o.s.	ORM-E	NA 9189		16	Gl.		X			1600	lbs	D002
2.	Hazardous Waste, Liquid, n.o.s.	ORM-E	NA 9189		14	Gl.		X			94	lbs	D002
3.	Hazardous Waste, Liquid, n.o.s.	ORM-E	NA 9189		6	Gl.		X			42	lbs	D002
4.	Hazardous Waste, Liquid, n.o.s.	ORM-E	NA 9189		1	Gl.					50	lbs	D002
5.	Hazardous Waste, Liquid, n.o.s.	ORM-E	NA 9189		1	Gl.					7	lbs	D002
6.	Hazardous Waste, Liquid, n.o.s.	ORM-E	NA 9189		1	PE					250	lbs	D002

COMMENTS

Include Safety precautions and special handling instructions.

Item 1) - Glass containers of sulfuric acid in wooden crates; Item 2) - 65% sulfuric acid--glass containers, in polystyrene or wood; Item 3) - Perchloric acid--glass containers in wooden crate; Item 4) - Acetic anhydride--glass, wooden crate; Item 5) - 90% Nitric acid--glass, polystyrene; 6) - Polyphosphoric acid--P.E. container.

GENERATOR CERTIFICATION: I certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and U.S. EPA. I further certify that the information contained on the manifest is factual. I understand that the failure to accurately report all information requested by the manifest constitutes a violation of 1979 PA64 and/or PA136. I further understand that this manifest may be used in administrative and court proceedings.

Generator Signature ① [signature]

Date Shipped MO. DAY YEAR: 9 14 83

TRANSPORTER COMPLETES

HAULER'S CERTIFICATION: I certify acceptance of the above identified wastes for transportation. I further certify that I shall deliver the hazardous wastes, together with this manifest, only to the destination specified by the generator on this manifest. I understand that this manifest can be used in administrative and court proceedings.

Transporter Vehicle I.D. No.: No. 1 H-105-13

Subsequent Transporter Vehicle I.D. No's:

Transporter Signature ② [signature]

Date(s) Received: 9 14 83

Subsequent transporter(s) signature(s) ③

If the shipment cannot be delivered, describe the reasons for non-delivery.

TSDF COMPLETES

TSDF CERTIFICATION: I certify receipt at this facility of the above identified wastes and that this facility is licensed to accept those wastes. I also certify that the wastes were accompanied by a manifest properly certified by both the generator and hauler and that this facility is the destination indicated on the manifest. I understand that this manifest can be used in administrative and court proceedings.

TSDF Signature ④

Facility Site EPA I.D. Number

☐ Accepted ☐ Rejected

Date Received

Describe any significant discrepancies between manifest and shipment.

ALL SPILLS MUST BE REPORTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM AT 800—294-4706, 24 HOURS PER DAY AND THE NATIONAL RESPONSE CENTER AT 800—424-8802

MDNR 1ST COPY

0100114

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF HAZARDOUS WASTE MANAGEMENT
BOX 30030
LANSING, MICHIGAN 48909

WASTE CHARACTERIZATION REPORT

SECTION A. WASTE GENERATOR IDENTIFICATION INFORMATION

EPA IDENTIFICATION NUMBER: MID 041803123

BUSINESS NAME: Ethyl Corporation

ADDRESS: 1600 W. Eight Mile Road

CITY: Ferndale, STATE: Michigan, ZIP CODE: 48220

NAME AND TITLE OF CONTACT PERSON: C. P. Jarema

TELEPHONE NUMBER: (313) 399-9600

SECTION B. COMMON NAME OF THE WASTE

ENTER TYPE OF WASTE (i.e. common name) characterized on this form and the source or process from which it was produced.

Mineral Acids

SECTION C. LISTED HAZARDOUS WASTE

	COMPONENT CONCENTRATION	HAZARDOUS WASTE NO.
1. If the waste is listed in tables 301 a, b, c, or d of Rule 299.6308, 299. 6309, 299.6310 or 299.6311, respectively or table 305 of Rule 299.6317, enter the hazardous waste number from the appropriate table		
2. If the waste is a discarded commercial chemical product, off-specification specie, container or spill residue of a substance listed in Table 302a, Rule 299.6312, or Table 302 b or c, Rule 299.6313 or 299.6314, respectively, enter the hazardous waste number from the applicable table		
3. If waste *contains* any substances listed in table 302 a, b, or c, Rule 299.6312, 299.6313,or 299.6314, respectively, enter their hazardous waste number(s) from the applicable table AND record the component concentrations.	____ to ____ % ____ to ____ % ____ to ____ %	
4. If the waste contains viable desease-causing agents listed in table 304, Rule 299.6316, enter the hazardous waste number(s) from the table		

SECTION D. HAZARDOUS WASTE BASED ON CHARACTERISTICS

Ignitable Wastes	Test Results	Parameters	Reference
5a. Liquid flash point test (aqueous solutions containing less than 24% alcohol by volume are excluded from this test).	____ to ____ °c	Flash Pt. 60°c	299.6201 (c) (i)
5b. Non-liquid — Is it ignitable based on conditions stated in the reference?	☐ Yes ☐ No	See Reference	299.6201 (c) (ii)
5c. Compressed gas — is the waste a flammable compressed gas as defined in the reference?	☐ Yes ☐ No	See Reference	49 CFR § 173.300
5d. Oxidizer — Is the waste an oxidizer as defined in the reference?	☐ Yes ☐ No	See Reference	49 CRF § 173.151
5e. Enter "D001", as the hazardous waste number if the waste exceeds one or more of the parameters listed or meets the definition of a hazardous waste based on the reference			
6. Corrosive Wastes (concentrated salt solutions are by definintion not coorosive)	**Test Results**	**Parameters**	**Reference**
6a. Aqueous Solution — ph test	2 ph	See Reference	299.6201 (a) (i)
6b. Liquid-Steel (type SAE 1020) corrosion test	____ mm/yr	Rate 6.35 mm/yr	299.6201 (a) (ii)
6c. Albino rabbit skin test — Is the tissue destroyed or irreversibly changed?	☐ Yes ☐ No	See Reference	229.6201 (a) (iii) & 49 CFR § 173.240
6d. Enter "D002", as the hazardous waste number if the waste exceeds one or more of the parameters listed			D002

7. Reactive wastes

7a. Is the waste normally unstable and capable of undergoing violent chemical or physical change without detonating?	☐ Yes ☒ No
7b. Does it react with water forming potentially explosive mixtures with water?	☐ Yes ☒ No
7c. When mixed with water, does it generate toxic gases, vapors, or fumes?	☐ Yes ☒ No
7d. Is it a sulfide or cyanide bearing waste which when exposed to ph conditions between 2 and 12.5, can generate toxic gasses, vapors, or fumes?	☐ Yes ☒ No
7e. Is the waste capable of detonation or explosive reaction when subjected to a strong initiating source or if heated under confinement?	☐ Yes ☒ No

— over —

7f. Is the waste capable of detonation or explosive decomposition or reaction at standard temperature and pressure? ☐ Yes ☒ No

7g. Is the waste a forbidden explosive as defined in 49 CFR § 173.51? ☐ Yes ☒ No

7h. Is the waste a Class A explosive as defined in 49 CFR § 173.53? ☐ Yes ☒ No

7i. Is the waste a Class B explosive as defined in 49 CFR § 173.88? ☐ Yes ☒ No

7j. If the answer to any of the questions 7a through 7i is yes, enter "D003", as the hazardous waste number. ____

8. EPA Toxic Wastes — Upon obtaining an extract of the waste as described on 40 CFR § 261, Appendix II, test for the components listed in Table 303, Rule 299.6315. For each component material that exceeds the extract concentration listed in the table, enter the hazardous waste number(s) and the tested concentration(s):

Hazardous Waste No.	Concentration
____	____ mg/l
____	____ mg/l
____	____ mg/l
____	____ mg/l

SECTION E. PHYSICAL STATE AT 25°

9. What is the average density of the material? liquid, 15 lbs/gal

10. Solids: Does the material produce dust if exposed to air movement? ☐ Yes ☐ No

11. Liquid — Sludge: What is the percent solids? <1 %
Do the solids settle out? ☐ Yes ☒ No
Can the material be pumped? ☒ Yes ☐ No
Can the material be poured.? ☒ Yes ☐ No

12. Liquid: At what temperature does it freeze? zero °C

13. Gases: What is the maximum pressure of the container? ____ PSIG

SECTION F. OTHER INFORMATION:

14. What is the maximum quantity of this waste that is generated per month? 50 kg.

15. If the only hazardous waste numbers listed on this form are the numbers that have been entered for Item 3, enter the numbers in the space provided if the component concentration (Item 3) and the quantity of the waste generated (Item 14) cause the waste to be considered as a notification waste based on R 299.6201 (1) (g) (iii) and (iv), *figure A* of R299.6201(2), or *figure B* of R299.6201 (3): ____ ____ ____

NOTE: If the hazardous waste numbers that have been entered under item 3, begin with the letter "P" use *figure A* to determine if it is a notification waste. If the number begins or ends with the letter "U" use *figure B*.

16. Are the hazardous wastes listed on this form disposed of onsite? ☐ Yes ☒

17. If the waste is a hazardous waste, is it exempt under the small quantity exemptions pursuant to R 299.6203(2) and (3)? ☐ Yes ☒ No

18. If tests were conducted in the evaluation of the waste, all of the following information shall be transmitted to the Department of Natural Resources with the waste characterization Record:

(a) The sampling procedure and the reasons for determining that the sample is representative of the waste

(b) The results of all tests conducted.

(c) The accuracy and precision of any test conducted.

SECTION G. U.S. DEPT. OF TRANSPORTATION REPORTING REQUIREMENTS

Hazardous Materials Description and Shipping Name
Hazardous Waste, Liquid, n.o.s.

Hazard Class
ORM-E

UN/DA ID No.
NA 9189

Special Handling and Shipping Requirements

If the waste is hazardous and not exempt or excluded from management, or is a notification waste, send the completed form to the Department of Natural Resources, Office of Hazardous Waste Management, P.O. Box 30038, Lansing, MI 48909.

C. P. Jarema (Signature) — Analytical Chemist (Title) — 9-14-83 (Date)

ETHYL CORPORATION
RESEARCH AND DEVELOPMENT DEPARTMENT · RESEARCH LABORATORIES
1600 WEST EIGHT MILE ROAD · FERNDALE, MICHIGAN 48220 · (313) 399-9600

July 9, 1981

U.S. Environmental Protection Agency
230 South Dearborn
Chicago, Illinois 60604

Attention: Mr. A. Debus

Dear Sirs:

In response to your request we are restating the information on page 3 of our U.S. Environmental Protection Agency Hazardous Waste Permit Application (EPA Form 3510-3) for EPA ID No. MID 041803123. The restated information is in the units of measure of estimated annual quantity of waste:

IV. Description of Hazardous Wastes

Line No.	A. EPA Hazard, Waste No.	B. Estimated Annual Quantity of Waste	C. Unit of Measure	D. Processes 1. Process Codes	D. Processes 2. Process Description
1	F002	6,400	P	S01	Shipped off site for disposal
2	F004	5,600	P	S01	"
3	F005	21,000	P	S01	"

If you need any additional information, please contact me.

Very truly yours,

C. J. Worrel
Supervisor of Safety & Security

CJW/lcb

D.Corrective Action

MEMO

To: File
From: Kathleen Miller
Date: 9/20/10
RE: Hayes Lemmerz Tech Svc (EPA ID# MID 041 803 123)

Summary of Phone Conversations:

On September 15, 2010, I attempted to call the contact person per RCRA Info. The phone number was disconnected and no longer in service. I did an online search and located the main corporate phone number and was told that Michael Koffman, Health & Safety Manager would be the appropriate person to direct my questions. On September 20th, Mr. Koffman returned my call. During our phone conversation, Mr. Koffman informed me that they've owned the property since 1999 but for the past four years the facility has been empty and up for sale. Before 1999, the Ethyl Corp., owned and operated a testing facility and has been held responsible for the contamination found when the PAVSI report was conducted back in 1992. The site is on Michigan's Part 201 Site List and has Ethyl Corp., as the responsible party. According to Mr. Koffman, the MDEQ/DNRE is aware of the contamination but the site is not a state lead site because contamination is not significant enough. Per the last intern's notes, back in 2008, there was no activity in regards to cleaning up the contamination. I also checked the Michigan DEQ Part 201 website and discovered that the status to clean-up the contamination is still "inactive" and has been since it was scored in 2004.

The company representative stated that the site does not have significant amounts of contamination and believes that is why the site is not on the state's "radar". I'm not sure that this site warrants our attention but perhaps we should recommend that the state (MDEQ/DNRE) take the initiative and clean up the contamination?

Updated contact info for this facility:
Hayes Lemmerz Tech Svc.
1600 W. 8 Mile Rd.
Ferndale, MI 48220

Corporate phone number:
734-737-5000

Michael Koffman, Health & Safety Manager
Tel: 734-737-5155

Department of Environmental Quality

Matching sites: 171
Save Results

Site ID: 63000001
Site Name: 11 Mile and Orchard LK Rd
Site Address: 31655 West 11 Mile Road
City: Farmington Hills
Zip Code: 48024
County: Oakland
Source: Nonclassifiable Establishments
Pollutant(s): Benzene; Ethylbenzene; Toluene; Xylenes
Score: 0 out of 48
Score Date: 10/1/1990 12:00:00 AM
Township: 01N **Range:** 09E **Section:** 22
Quarter: NE **Quarter/Quarter:** NE
Status: Delisted - no longer meets criteria specified in rules

---

Site ID: 63000004
Site Name: Anderson Heat Treat
Site Address: 23390 Telegraph Road
City: Southfield
Zip Code: 48076
County: Oakland
Source: Metal Coating & Allied Service
Pollutant(s): Cu; CN; Pb; Ni; Zn
Score: 32 out of 48
Score Date: 1/5/2004 11:40:11 AM
Township: 01N **Range:** 10E **Section:** 28
Quarter: SW **Quarter/Quarter:** NW
Status: Inactive - no actions taken to address contamination

Site ID: 63000005
Site Name: Anderson Municipal LF
Site Address: 50250 W 8 MILE RD (@GARFIELD)
City: Novi
Zip Code: 48050
County: Oakland
Source: Refuse Systems
Pollutant(s): Domestic comm; Heavy mfg
Score: 28 out of 48
Score Date: 1/22/2004 12:51:10 PM
Township: 01N **Range:** 08E **Section:** 31
Quarter: SW **Quarter/Quarter:** SE
Status: Inactive - no actions taken to address contamination

Site ID: 63000007
Site Name: J and L Landfill
Site Address: Hamlin Road
City: Rochester Hills
Zip Code: 48063
County: Oakland
Source:
Pollutant(s): 1,4 DCB; MEK; 2-Methoxyethanol; 4,4'-DDE; 4,4'-DDT; Acetone; Al; Sb; As; Ba; Benzene; Be; Cd; Chlorobenzene; Cr+3; Cu; CN; Ethylbenzene; Heptachlor epoxide; Fe; Pb; Mg; Mn; Naphthalene; Ni; Na; Tl; Toluene; TCE; V; Xylenes;
Score: 29 out of 48
Score Date: 3/7/2007 2:41:16 PM
Township: 03N **Range:** 11E **Section:** 24
Quarter: SE **Quarter/Quarter:** SE
Status: Remedial Action in Progress (may incl. use restrictions, O&M and/or monitoring)

Site ID: 63000009
Site Name: Booker Property
Site Address: 8440 FISH LAKE RD

City: Holly
Zip Code: 48442
County: Oakland
Source: Private Households
Pollutant(s): Cd; Pb; Ni; Phenol; PCB's; Zn
Score: 23 out of 48
Score Date: 1/16/2004 10:51:45 AM
Township: 04N **Range:** 07E **Section:** 28
Quarter: NW **Quarter/Quarter:**
Status: Inactive - no actions taken to address contamination

Site ID: 63000011
Site Name: Buckeye Oil Pipeline Release
Site Address: 7770 Deerhill Drive (parcel-west side)
City: Independence Twp
Zip Code: 48346
County: Oakland
Source:
Pollutant(s): Chem prod mfg
Score: 18 out of 48
Score Date: 1/6/2004 1:23:17 PM
Township: 04N **Range:** 09E **Section:** 19
Quarter: NW **Quarter/Quarter:** SW
Status: Interim Response in progress

Site ID: 63000014
Site Name: Cardinal Land Corp Veterans LF
Site Address: 2571 HAMLIN RD (former)
City: Rochester Hills
Zip Code:
County: Oakland
Source: Refuse Systems
Pollutant(s):
Score: 27 out of 48
Score Date: 7/13/2004 2:50:59 PM
Township: T2N **Range:** R10 **Section:**
Quarter: **Quarter/Quarter:**
Status: Evaluation in progress

Site ID: 63000015
Site Name: Christianson Adams Rd Dumpsite LF
Site Address: 2991 HAMLIN RD (NE corner Adams Rd)
City: Rochester Hills
Zip Code: 48063
County: Oakland
Source: Refuse Systems
Pollutant(s): Pb; Mn; Toluene; TCE; Xylenes
Score: 24 out of 48
Score Date: 1/6/2004 3:38:55 PM
Township: 03N **Range:** 11E **Section:** 29
Quarter: NW **Quarter/Quarter:** NW
Status: Evaluation in progress

Site ID: 63000016
Site Name: Clarkston Rd Area LF
Site Address: 6440 Clarkston Rd
City: Clarkston
Zip Code: 48016
County: Oakland
Source: Refuse Systems
Pollutant(s): As; Pb
Score: 20 out of 48
Score Date: 1/9/2004 10:13:34 AM
Township: 04N **Range:** 09E **Section:** 21
Quarter: NW **Quarter/Quarter:** SE
Status: Interim Response conducted - No further activities anticipated

---

Site ID: 63000017
Site Name: Collier Rd LF Pontiac
Site Address: 575 Collier Road
City: Pontiac
Zip Code: 48055
County: Oakland
Source:
Pollutant(s): Asbestos; TCE; VC; Zn
Score: 28 out of 48
Score Date: 9/14/1990 12:00:00 AM
Township: 03N **Range:** 10E **Section:** 09
Quarter: NW **Quarter/Quarter:**
Status: Inactive - no actions taken to address contamination

Site ID: 63000018
Site Name: Davis Mfg Clawson
Site Address: 930 N MAIN
City: Clawson
Zip Code: 48017
County: Oakland
Source: Unknown
Pollutant(s): 1,2 DCA; TCE; VC
Score: 43 out of 48
Score Date: 1/16/2004 12:42:28 PM
Township: 02N **Range:** 11E **Section:** 34
Quarter: NW **Quarter/Quarter:** SW
Status: Interim Response in progress

Site ID: 63000019
Site Name: Delta Tube and Fabrication Corp
Site Address: 4149 GRANGE HALL RD
City: Holly
Zip Code: 48442
County: Oakland
Source: Paints & Allied Products
Pollutant(s): Pb
Score: 32 out of 48
Score Date: 1/9/2004 2:43:32 PM
Township: 05N **Range:** 08E **Section:** 22
Quarter: NW **Quarter/Quarter:** SE
Status: Inactive - no actions taken to address contamination

Site ID: 63000020
Site Name: Ethyl Corp
Site Address: EIGHT MILE RD & PINECREST
City: Ferndale
Zip Code: 48222
County: Oakland
Source: Eng Acct Research Mgt/Service
Pollutant(s): Cd; TCM; Pb; THF
Score: 22 out of 48
Score Date: 1/22/2004 2:49:25 PM
Township: 01N **Range:** 11E **Section:** 33
Quarter: SW **Quarter/Quarter:** SE
Status: Inactive - no actions taken to address contamination

Site ID: 63000021
Site Name: Fisher Clnrs and Laund Pontiac
Site Address: 8311 HIGHLAND RD
City: White Lake Township
Zip Code: 48054
County: Oakland
Source: Laundry Dry Cleaner
Pollutant(s): PCE
Score: 17 out of 48
Score Date: 1/22/2004 1:41:14 PM
Township: 03N **Range:** 08E **Section:** 24

Quarter: NE **Quarter/Quarter:** NE
Status: Inactive - no actions taken to address contamination

Site ID: 63000022
Site Name: Ford Motor Co Wixom
Site Address: 28601 South Wixom Rd (Oakland Access)
City: Wixom
Zip Code: 48393-3411
County: Oakland
Source:
Pollutant(s): Cd; Pb
Score: 29 out of 48
Score Date: 9/19/1991 12:00:00 AM
Township: 01N **Range:** 08E **Section:** 07
Quarter: **Quarter/Quarter:**
Status: Remedial Action in Progress (may incl. use restrictions, O&M and/or monitoring)

Site ID: 63000024
Site Name: Great Lakes Container Corporation
Site Address: 415 COLLIER RD
City: Auburn Hills
Zip Code: 48055
County: Oakland
Source: Fabricated Metal Products
Pollutant(s): Cd; Dieldrin; Pb; Ni; Toluene
Score: 39 out of 48
Score Date: 2/22/2005 3:04:24 PM
Township: 03N **Range:** 10E **Section:** 08
Quarter: NE **Quarter/Quarter:** NE
Status: Remedial Action In progress

Site ID: 63000025
Site Name: Hi-Mill Manufacturing Co.
Site Address: 1704 Highland Road
City: Highland
Zip Code: 48031
County: Oakland
Source: Fabricated Pipe & Fittings
Pollutant(s): TCE; VC
Score: 41 out of 48
Score Date: 1/12/1993 12:00:00 AM
Township: 03N **Range:** 07E **Section:** 23
Quarter: NE **Quarter/Quarter:** NW
Status: Evaluation in progress

Site ID: 63000027
Site Name: Holly Containers Inc
Site Address: 422 N. Saginaw St
City: Holly
Zip Code:
County: Oakland
Source:
Pollutant(s): Oil & grease
Score: 27 out of 48
Score Date: 10/23/1991 12:00:00 AM
Township: 05N **Range:** 07E **Section:** 34
Quarter: NW **Quarter/Quarter:** NW
Status: Inactive - no actions taken to address contamination

Site ID: 63000028
Site Name: House of Imports
Site Address: 6841 Rochester
City: Rochester Hills
Zip Code: 48063
County: Oakland
Source: Fabricated Metal Products
Pollutant(s): CN; Ni; PCB's

WDS Online
Site ID
Site Identification
CME
Compliance Actions
Evaluations
Violations
Manifests
Manifests
PCA
Authorized Waste Codes
Corrective Actions
Permitting
User Charges
User Charges

395519 / MID041803123 HAYES LEMMERZ TECH SVC INC

Site Information

Site ID	MID041803123	**Site Legal Name**	HAYES LEMMERZ TECH SVC INC
WMD ID	395519	**Site Specific Name**	HAYES LEMMERZ TECH SVC INC
District	SOUTHEAST MICHIGAN		

NAICS Codes
541512 - Computer Systems Design Services
332997 - Industrial Pattern Manufacturing
541380 - Testing Laboratories

Location Address
1600 W 8 MILE RD
FERNDALE, MI 48220-2202
County: OAKLAND
Country: U.S.A.

Mailing Address
1600 W 8 MILE RD
FERNDALE, MI 48220-2202
County: OAKLAND
Country: U.S.A.

Site Owners / Operators

Name	Org Type	Active	Inactive	Owner	Operator
HAYES LEMMERZ INTERNATIONAL INC	Private	2/3/1999		Yes	Yes
TC REALTY INC	Private	1/3/1999	2/3/1999	Yes	No
ETHYL CORP	Private	11/19/1962	2/3/1999	No	Yes

Current Site Activities

Discovery Date	Source	Activity
2/20/2006	Biennial Reporting (Site)	**Hazardous Waste Activities** Conditionally Exempt Small Quantity Generator Stores Onsite **Liquid Industrial Waste Activities** LIW Generator

Previous Site Activities

[+ click to expand]

Site Comments

Date	Type	Comment
2/20/2006	111/121-HW/LIW	2005 BIENNIAL REPORT - FACILITY REPORTED THEY ARE A CESQG, LIW GENERATOR AND STORES WASTE ON SITE-ES.
7/28/2004	111/121-HW/LIW	2003 ANNUAL REPORT - CHANGED THEIR GENERATOR STATUS TO CESQG, EVERYTHING ELSE THE SAME - GEK
9/19/2003	111/121-HW/LIW	2002 ANNUAL REPORT - ADDED NAICS CODE NUMBER, TAX ID NUMBER, NUMBER OF EMPLOYEES, NEW PHONE AREA CODE, YEAR OF OWNERSHIP, EVERYTHING ELSE THE SAME - GEK
9/11/2002	111/121-HW/LIW	STORES WASTE ON SITE AS CONFIRMED BY HWPS-ES.
3/1/2001	111/121-HW/LIW	GENERATOR STATUS CHANGE PER C. SILVA, PER SUBS NOTIFICATION, 8-21-00, NEW C0 11-17-95 FROM LARGE QUANTITY GENERATOR TO SMALL QUANTITY GENERATOR. 1-18-96 JDL NAME, NEW OWNERSHIP, NEW CONTACT PERSON CHANGE OF STATUS FROM LARGE QUANTITY GENERATOR TO SMALL QUANTITY GENERATOR. 8-21-00 JDL

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

MEMORANDUM

DATE:
SUBJECT: Determination of Need for an Investigation
Facility Name: CMI Tech Center (Hayes Lemmerz Tech)
EPA ID #: MID 041 803 123

FROM: Kathleen Miller
Kathleen Miller, Environmental Protection Specialist

TO: George Hamper, Chief, Corrective Action Section 2

I recommend the following determination regarding the need for an investigation:

☐ **CA070NO** Determination of Need for an Investigation-Investigation is not Necessary
Reason for Determination
- ☐ Preliminary Assessment/Visual Site Inspection (PA/VSI) did not recommend any further investigation
- ☐ PA/VSI recommendations do not warrant RRB attention
- ☐ Phase 1 Environmental Site Assessment (ESA) did not recommend further investigation
- ☐ Phase 2 ESA did not recommend further investigation
- ☐ Phase 1/Phase 2 ESA recommendations do not warrant RRB attention
- ☐ Company representative asserts that the site is clean
- ☐ Not subject to corrective action
- ☐ Enrolled in other clean-up program
- ☐ PA/VSI recommendations have been implemented
- ☐ Superfund Removal
- ☐ Participating in Voluntary Remediation Program
- ☐ Completed Voluntary Remediation Program
- ☐ Superfund Remedial Action
- ☐ Superfund No Further Action Decision
- ☐ Superfund Base Relocation and Closure
- ☐ Other_____

☒ **CA070YE** Determination of Need for an Investigation – Investigation is Necessary
Reason for Determination
- ☐ PA/VSI recommends further investigation
- ☐ ESA recommends further investigation
- ☒ Other Recommend this area be classified as a State-lead site - on MDEQ

☐ **No determination can be made** – More Information Needed

☐ Approved ☐ Not Approved

Signed: _____ Date: _____

Determination: Characterize the extent of soil and GW contamination

PA/VSI Or RFA FILE REVIEW CHECKLIST

Facility Name: Hayes Lemmerz Tech Svc Inc. (CMI Tech Center Inc.)_____

EPA ID: MID 041 803 123_____ City: Ferndale_____ State: MI___

Name of Reviewer: Maureen McHugh_____ Date of Review: 8/7/08_____

1	Yes	No	Is this a one folder site?
2	Yes	No	Are there Superfund files for this site?
3	Yes	No	Did you Read the Executive Summary?
			There are: __4__ SWMUs and ___0__ AOCs at this site.
4	Yes	No	Did you review the regulatory history?
5	Yes	No	Does the facility have interim status or a permit?
			This facility is a: __X__ (CE)SQG, _____ LQG, or ____ Less than 90 day.
6	Yes	No	Was the Facility closed per RCRA?
			If Yes, was the closure: ____ CC, or _____ CIP.
7	Yes	No	Are there documented (historical) releases? Briefly describe on Page 2.
8	Yes	No	Were there releases identified during the inspection? Briefly describe on Page 2.
9	Yes	No	Do you agree with the Conclusions and Recommendations?
			If No, briefly describe on Page 2.

As a result of your review of the PA/VSI or RFA file, please classify this site as:

_____ No further corrective action recommended or warranted: These are sites that closed the regulated units and any other SWMUs or AOCs at the site did not warrant any further corrective action (no historic releases or evidence of releases observed during the Visual Site Inspection).

__X___Further Action Required: Soil or sediment sampling or groundwater sampling or monitoring or any type of investigation that was recommended in the report in response to a documented or observed release at any SWMU or AOC and where such investigation, whether being addressed during the inspection or after, does not have the necessary documentation in the facility record files.

_____ More Information Needed: There is no RFA, PA/VSI or RCRA closure information available.

PA/VSI Or RFA FILE REVIEW CHECKLIST

Notes

Briefly describe any documented (historical) releases for any SWMU or AOC recorded in the report. For each release, please identify the SWMU or AOC and a one or two line description of release.

Organic contamination in the soil at SWMU2. Groundwater contamination was also present at 1-5ug/L of toluene and chloroform and 40-400ug/L of tetrahydrofuran.
Traces of organic contamination at SWMU3

Briefly describe any releases observed during the inspection for any SWMU or AOC recorded in the report. For each release, please identify the SWMU or AOC and a one or two line description of release.

PA/VSI Recommendations

Characterize the extent of soil and groundwater contamination at SWMU2 and 3

Looked up in MI's Part 201 Site List and Ethyl Corp, which is located at the same intersection and is presumably the same site, had a status of: Inactive- no actions taken to address contamination. It scored 22/48 in 2004.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

HRE-8J

June 25, 1992

Mr. Jeff Norton
CMI Southfield
26290 West 8 Mile Road
Southfield, Michigan

Re: CMI Southfield (formerly
Ethyl Corporation)
Ferndale, Michigan
MID 041 803 123

Dear Mr. Norton:

As indicated in the letter of introduction sent to you on January 21, 1992, the U.S. Environmental Protection Agency is enclosing a copy of the final Preliminary Assessment/Visual Site inspection (PA/VSI) report for the referenced facility. The executive summary and conclusions and recommendations sections have been withheld as Enforcement Confidential.

If you have any questions, please call Francene Harris at (312) 886-2884.

Sincerely yours,

Francene D. Harris

Kevin M. Pierard, Chief
Minnesota/Ohio Technical Enforcement Section
RCRA Enforcement Branch

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

HRE-8J

January 21, 1992

Mr. Jeff Norton
CMI Southfield
26290 West 8 Mile Road
Southfield, Michigan

Re: Visual Site Inspection
CMI Southfield (formerly
Ethyl Corporation)
Ferndale, Michigan
MID 041 803 123

Dear Mr. Norton:

The United States Environmental Protection Agency (U.S. EPA) Region V will conduct a Preliminary Assessment including a Visual Site Inspection (PA/VSI) at the referenced facility. This inspection is conducted pursuant to the Resource Conservation and Recovery Act, as amended (RCRA) Section 3007 and the Comprehensive Environmental Response, Compensation, and Liability Act, as amended (CERCLA) Section 104(e). The referenced facility has generated, treated, stored, or disposed of hazardous waste subject to RCRA. The PA/VSI requires identification and systematic review of all solid waste streams at the facility. The objective of the PA/VSI is to determine whether or not releases of hazardous wastes or hazardous constituents have occurred or are occurring at the facility which may require further investigation. This analysis will also provide information to establish priorities for addressing any confirmed releases.

The visual site inspection of your facility is to verify the location of all solid waste management units (SWMUs) and areas of concern (AOCs) to make a cursory determination of their condition by visual observation. The definitions of SWMUs and AOCs are included in Attachment I. The VSI supplements and updates data gathered during a preliminary file review. During this site inspection, no samples will be taken. A sampling visit to ascertain if releases of hazardous waste or constituents have occurred may be required at a later date.

Assistance of some of your personnel may be required in reviewing solid waste flow(s) or previous disposal practices. The site inspection is to provide a technical understanding of the present and past waste flows and handling, treatment, storage, and disposal practices. Photographs of the facility are necessary to document the condition of the units at the facility and the waste management practices used.

The VSI has been scheduled for February 4, 1992 at 10:00 a.m. The inspection team will consist of Kevin Schnoes and Deb Harrity of PRC Environmental Management, Inc., a contractor for the U.S. EPA. Representatives of the Michigan Department of Natural Resources (MDNR) may also be present. Your cooperation in admitting and assisting them while on site is appreciated.

The U.S. EPA recommends that personnel who are familiar with present and past manufacturing and waste management activities be available during the VSI. Access to any relevant maps, diagrams, hydrogeologic reports, environmental assessment reports, sampling data sheets, environmental permits (air, NPDES), manifests and/or correspondence is also necessary, as such information is needed to complete the PA/VSI.

If you have any questions, please contact me at (312) 886-4448 or Francene Harris at (312) 886-2884. A copy of the Preliminary Assessment/Visual Site Inspection Report, excluding the conclusions and Executive Summary portion will be sent when the report is available.

Sincerely yours,

Kevin M. Pierard, Chief
OH/MN Technical Enforcement Section

enclosure - Attachment I

cc: Ken Burda, MDNR - Lansing
Dennis Drake, MDNR - Lansing
Ben Okwumabua, MDNR - Livonia

ATTACHMENT I

The definitions of SWMU and AOC are defined as follows:

A SWMU is defined as any discernable unit where solid wastes have been placed at any time from which hazardous constituents might migrate, regardless of whether the unit was intended for the management of a solid or hazardous waste.

The SWMU definition includes the following:

- RCRA regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells.
- Closed and abandoned units.
- Recycling units, wastewater treatment units, and other units that EPA has generally exempted from standards applicable to hazardous waste management units.
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents, such as wood preservative treatment dripping areas, loading or unloading areas, or solvent washing areas.

An AOC is defined as any area where a release to the environment of hazardous wastes or constituents has occurred or is suspected to have occurred on a nonroutine or non-systematic basis. This includes any area where such a release in the future is judged to be a strong possibility.

PRC is requesting that the following facility information (if appropriate and available) be provided at the February 4, 1992 visual site inspection:

1. A detailed map of the facility
2. Facility history, including dates of operation
3. Current facility operations
4. Processes that generate waste materials stored or disposed at the facility
5. Disposal of wastes generated at the facility
6. Security at the facility
7. Geological information and ground water and surface water uses in the area
8. Any permits the facility currently holds or has held in the past
9. Records of any spills that may have occurred at the facility
10. Descriptive operational information (location, dimensions, capacity, materials of construction, etc...), dates of start-up and closure, wastes managed, release controls, and release history for each SWMU

PRC Environmental Management, Inc.
233 North Michigan Avenue
Suite 1621
Chicago, IL 60601
312-856-8700
Fax 312-938-0118

PRELIMINARY ASSESSMENT/ VISUAL SITE INSPECTION

T.C. REALTY, INC. (FORMERLY ETHYL CORPORATION) FERNDALE, MICHIGAN MID 041 803 123

FINAL REPORT

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, DC 20460

Work Assignment No.	:	C05087
EPA Region	:	5
Site No.	:	MID 041 803 123
Date Prepared	:	March 16, 1992
Contract No.	:	68-W9-0006
PRC No.	:	009-C05087MI2M
Prepared by	:	PRC Environmental Management, Inc. (Kevin Schnoes)
Contractor Project Manager	:	Shin Ahn
Telephone No.	:	(312) 856-8700
EPA Work Assignment Manager	:	Kevin Pierard
Telephone No.	:	(312) 886-4448

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

EXECUTIVE SUMMARY

PRC Environmental Management, Inc. (PRC), performed a preliminary assessment and visual site inspection (PA/VSI) to identify and assess the existence and likelihood of releases from solid waste management units (SWMU) and other areas of concern (AOC) at the TC Realty, Inc. (TCR), facility in Ferndale, Michigan. This summary highlights the results of the PA/VSI and the potential for releases of hazardous wastes or hazardous constituents from SWMUs and AOCs identified. In addition, a completed U.S. Environmental Protection Agency (EPA) Preliminary Assessment Form (EPA Form 2070-12) is included in Attachment A to assist in prioritization of RCRA facilities for corrective action.

The TCR facility is used for computer aided design (CAD), computer aided manufacturing (CAM), and product testing and analysis. The facility generates and manages the following waste streams: mineral spirits (D001), waste hydraulic oil, and waste motor oil. The facility has operated at its current location since 1987. The facility occupies 34 acres in an area of mixed use and employs about 110 people. The facility is a small-quantity generator of hazardous waste. Ethyl Corporation (Ethyl) owned the facility from 1936 to 1987. In 1983, Ethyl employeed about 50 people. On June 1, 1984, Ethyl donated the facility to the National Counsel for Community Development, Inc. (NCCD), a charitable organization; however, Ethyl remains responsible for any remedial action needed at the facility. CMI Tech Center, Inc. (CMI), purchased the facility from the NCCD on December 3, 1987. CMI has changed its name to TCR since then.

The PA/VSI identified the following 4 SWMUs at the facility:

Solid Waste Management Units

1. Former Drum Storage Area (DSA)
2. Burial Pit Area 1
3. Burial Pit Area 2
4. Container and Tank Storage Area (CTSA)

Releases of toluene, chloroform, and tetrahydrofuran to ground water from on-site burial pits have been documented in on-site monitoring well samples. Ethyl contends that the contaminants detected are either at too low a concentration to pose a threat to the environment, or are a result of monitoring-well installation. Ground water is not used as a source of drinking water in this area. Ground water in the area is not used for anything else.

The potential for a release to surface water is low. The nearest surface water body is a small isolated pond that measures about 100 feet by 50 feet about 1 mile southeast of the facility.

This pond does not appear to have any use. No other major surface water bodies exist in the vicinity of the TCR facility.

The potential for a release to the air is low. The SWMUs at the facility do not appear to emit vapors. Also, the facility has never had an air permit.

Releases of organic contaminants to the on-site soils have been documented. Drilling near the Burial Pit Area 1 (SWMU 2) in the northwest corner of the facility revealed organic contamination of subsurface soils.

No wetlands or sensitive environments exist within 4 miles of the facility. Also, there are no ground-water wells within 2 miles.

Access to the facility is restricted by a fence and a security guard system operating 24 hours a day, seven days a week. A logbook is kept to monitor on-site personnel.

The nearest residences are 1 mile adjacent to the east and west boundaries of the facility property.

PRC recommends that TCR and Ethyl continue with their monitoring programs. Also, the extent of soil and ground-water contamination should be determined.

1.0 INTRODUCTION

PRC Environmental Management, Inc. (PRC), received Work Assignment No. C05087 from the U.S. Environmental Protection Agency (EPA) under Contract No. 68-W9-0006 (TES 9) to conduct preliminary assessments (PA) and visual site inspections (VSI) of hazardous waste treatment and storage facilities in Region 5.

As part of the EPA Region 5 Environmental Priorities Initiative, the RCRA and CERCLA programs are working together to identify and address RCRA facilities that have a high priority for corrective action using applicable RCRA and CERCLA authorities. The PA/VSI is the first step in the process of prioritizing facilities for corrective action. Through the PA/VSI process, enough information is obtained to characterize a facility's actual or potential releases to the environment from solid waste management units (SWMU) and areas of concern (AOC).

A SWMU is defined as any discernible unit at a RCRA facility in which solid wastes have been placed and from which hazardous constituents might migrate, regardless of whether the unit was intended to manage solid or hazardous waste.

The SWMU definition includes the following:

- RCRA-regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells
- Closed and abandoned units
- Recycling units, wastewater treatment units, and other units that EPA has generally exempted from standards applicable to hazardous waste management units
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents. Such areas might include a wood preservative drippage area, a loading-unloading area, or an area where solvent used to wash large parts has continually dripped onto soils.

An AOC is defined as any area where a release to the environment of hazardous waste or constituents has occurred or is suspected to have occurred on a nonroutine and nonsystematic basis. This includes any area where such a release in the future is judged to be a strong possibility.

The purpose of the PA is as follows:

- Identify SWMUs and AOCs at the facility
- Obtain information on the operational history of the facility
- Obtain information on releases from any units at the facility
- Identify data gaps and other informational needs to be filled during the VSI

The PA generally includes review of all relevant documents and files located at state offices and at the EPA Region 5 office in Chicago.

The purpose of the VSI is as follows:

- Identify SWMUs and AOCs not discovered during the PA
- Identify releases not discovered during the PA
- Provide a specific description of the environmental setting
- Provide information on release pathways and the potential for releases to each medium
- Confirm information obtained during the PA regarding operations, SWMUs, AOCs, and releases

The VSI includes interviewing appropriate facility staff, inspecting the entire facility to identify all SWMUs and AOCs, photographing all visible SWMUs, identifying evidence of releases, initially identifying potential sampling parameters and locations, if needed, and obtaining all information necessary to complete the PA/VSI report.

This report documents the results of a PA/VSI of the T.C. Realty, Inc. (TCR), facility in Ferndale, Michigan. The PA was completed on January 31, 1992. PRC gathered and reviewed information from the Michigan Department of Natural Resources (MDNR) and from EPA Region 5 RCRA files. The VSI was conducted on February 4, 1992. It included interviews with facility representatives and a walk-through inspection of the facility. Four SWMUs and no AOCs were identified at the facility.

PRC completed EPA Form 2070-12 using information gathered during the PA/VSI. This form is included in Attachment A. The VSI is summarized and three inspection photographs are included in Attachment B. Field notes from the VSI are included in Attachment C.

2.0 FACILITY DESCRIPTION

This section describes the facility's location, past and present operations (including waste management practices), waste generating processes, history of documented releases, regulatory history, environmental setting, and receptors.

2.1 FACILITY LOCATION

The TCR facility is located at 1600 West Eight Mile Road in Ferndale, Oakland County, Michigan (latitude 42°26'47"N and longitude 83°8'50"W), as shown in Figure 1. The facility occupies 34 acres in an area of mixed use.

The TCR facility is bordered on the north by Ferndale High School; on the west by Goodwill Printing and private residences; on the south by All American Car Rental, the Detroit Store Fixture Co., General Type and Supply, A1 Transmissions, and Tuffy Service Center; and on the east by a Citgo gas station and private residences.

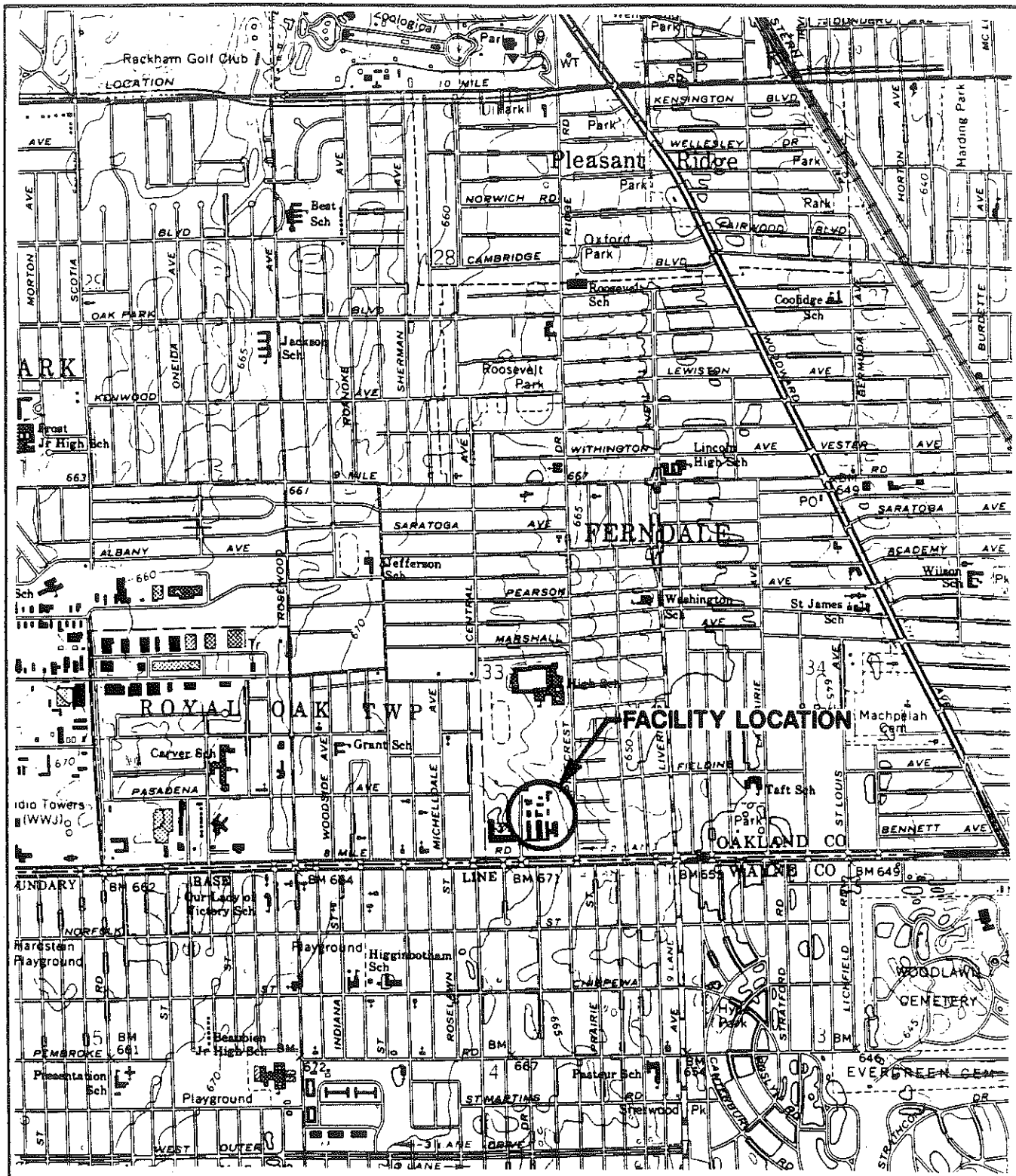
Access to the facility is restricted by a fence and a security guard system operating 24 hours a day, seven days a week. A logbook is also kept to monitor on-site personnel.

2.2 FACILITY OPERATIONS

The TCR facility is used for computer-aided design (CAD), computer-aided manufacturing (CAM), and product testing and analysis. The facility has operated at its current location since 1987 and employs about 110 people. The facility is composed of about 30 buildings, but not all are used.

TCR currently generates waste hydraulic and motor oil and waste mineral spirits (D001) from machining and research and development operations. These wastes are stored in three 500-gallon tanks in a Container and Tank Storage Area (CTSA) (SWMU 4). Waste hydraulic oil is also stored in the CTSA in drums ranging in size from 30 to 55 gallons.

Formerly, the facility was owned by Ethyl Corporation (Ethyl) for research and development. Ethyl owned the facility from 1936 to 1987. In 1983 the facility employed about 50 people. Ethyl conducted research on automotive fuel and lubricant additives, emissions controls, engine dynamometers, chassis dynamometers and road tests. Ethyl generated D001, D002, D003, F002, F004, and F005 wastes at the facility, which were managed in containers in SWMU 1, the former drum storage area (DSA) (Ethyl, 1980a; Ethyl 1980b).



T.C. REALTY, INC.
FERNDALE, MICHIGAN

FIGURE 1

FACILITY LOCATION

PRC ENVIRONMENTAL MANAGEMENT, INC.

SOURCE: MODIFIED FROM USGS, 1986

While Ethyl owned the facility, they buried laboratory and pilot plant (testing plant) glassware and residues in shallow pits. These pits usually measured less than 1,000 square feet (10' x 10' x 10') in volume. Debris was placed in these pits (SWMUs 2 and 3) and were periodically covered with sand until full (Ethyl, 1985).

SWMUs (past and present) at the TCR facility are listed in Table 1. The facility layout, including SWMU locations, is included as Figure 2.

2.3 WASTE GENERATING PROCESSES

The primary waste streams at the TCR facility are waste hydraulic and waste motor oil and waste mineral spirits (D001). These wastes are generated from testing and analyzing automotive products. Wastes generated at the facility are discussed below and are summarized in Table 2.

TCR generates waste mineral spirits (D001) from cleaning machinery that tests automotive parts. This waste is stored in a 500-gallon tank in SWMU 4. The facility also generates waste hydraulic oil and waste motor oil from automotive testing. The two types of waste oil are stored in separate 500-gallon tanks in SWMU 4. Waste oils are also stored in 55-gallon drums in SWMU 4. All wastes are stored on site for less than 180 days.

Ethyl, the originator of the hazardous waste permit and former owners of the facility, also generated and stored hazardous waste on site. The facility's Part A hazardous waste permit listed codes for the container storage of 6,400 pounds of F002 waste; 5,600 pounds of F004 waste; and 21,000 pounds of F005 waste (Ethyl, 1980b). These wastes were also listed as ignitable (D001), corrosive (D002), reactive (D003), and toxic (D000) (Ethyl, 1980a). The wastes were generated by research and development activities at the facility. A RCRA Inspection Report by the MDNR dated August 4, 1982, noted that organophosphate wastes were also generated at the facility (MDNR, 1982). A RCRA Inspection by the MDNR dated January 19, 1984, revealed that Ethyl was generating about 1,800 gallons of waste oil and about 4,500 gallons of waste gasoline that year (MDNR, 1984). Information was not available about how these wastes were generated, how they were stored, or how they were disposed.

2.4 HISTORY OF DOCUMENTED RELEASES

This section discusses the history of documented releases to ground water, surface water, air, and on-site soils, at the TCR facility.

TABLE 1

SOLID WASTE MANAGEMENT UNITS (SWMU)

SWMU Number	SWMU Name	RCRA Hazardous Waste Management Unit*	Status
1	Former Drum Storage Area (DSA)	Yes	Closed in 1984
2	Burial Pit Area 1	No	Inactive
3	Burial Pit Area 2	No	Inactive
4	Container and Tank Storage Area (CTSA)	No	Active, less than 180-day storage of hazardous waste

Note:

* A RCRA hazardous waste management unit is one that currently requires or formerly required submittal of a RCRA Part A or Part B permit application.

TABLE 2

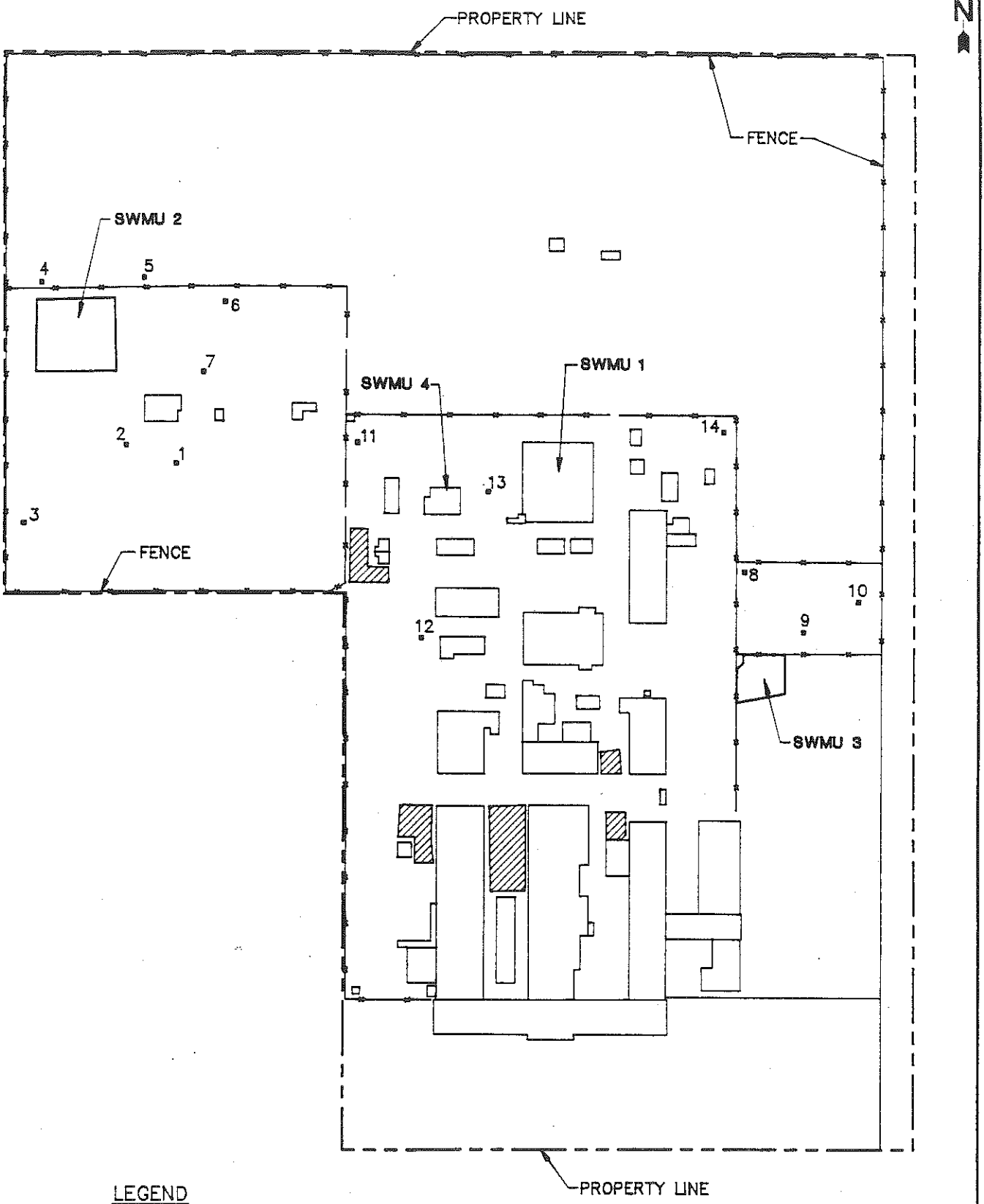
SOLID WASTES

Waste/EPA Waste Code	Source	Primary Management Unit*
Mineral Spirits/D001	Machinery cleaning	SWMU 4
Waste Hydraulic Oil/NA**	Machining processes equipment	SWMU 4
Waste Motor Oil/NA	Automotive testing	SWMU 4

Notes:

* Primary management unit refers to a SWMU that currently manages or formerly managed the waste.

** Not applicable (NA) designates nonhazardous waste



LEGEND

8 ● MONITORING WELL

▨ AREA OF EXCAVATED UNDERGROUND STORAGE TANKS

SOURCE: MODIFIED FROM T.C. REALTY SKETCH RECEIVED BY PRC ON FEBRUARY 4,1992

NOT TO SCALE

T.C. REALTY, INC.
FERNDALE, MICHIGAN

FIGURE 2

FACILITY LAYOUT

PRC ENVIRONMENTAL MANAGEMENT, INC.

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No documented releases of hazardous material to the environment by TCR exist based on the PA file review and the VSI. However, the PA revealed releases to the environment by Ethyl, the former owner of the facility. In 1984, soil borings in the vicinity of Burial Pit Area 1 (SWMU 2) in the northwest corner of the facility revealed organic contamination in the soils (MDNR, 1986). No evidence of analytical samples is available to confirm this contamination. Ground-water samples from six monitoring wells installed around the most recently used and identified burial pit (SWMU 2) showed 1 to 5 micrograms per liter (μg/L) of toluene and chloroform, and 40 to 400 μg/l of tetrahydrofuran (MDNR, 1986). Ethyl believes that the toluene and chloroform are at concentrations too low to pose a threat to the environment. Ethyl also claims that the tetrahydrofuran is from pipe glue used in monitoring well construction at the facility (Ethyl, 1986b). Trace organic contamination was also noted in Monitoring Wells 8, 9, 10, and 14 near the east side of the facility and in the area of SWMU 3. Ethyl states that this contamination is minor and will evaporate from the ground water (Ethyl, 1986b).

In the mid-1980s, Ethyl excavated 73 underground storage tanks (USTs) ranging in size from 500 to 10,000 gallons (MDNR, 1986a). These tanks were used to store gasoline upon which research and development was being performed. Soil gas samples in the UST areas revealed no contamination and the Ferndale Fire Department monitored the excavation (Ethyl, 1986b).

Mr. Tyler Tennent, attorney for TCR, stated during the VSI that Ethyl has agreed to remediate the facility. The next round of sampling for the 14 existing monitoring wells is scheduled for completion before the end of March 1992. As a result of the on-site contamination by toluene, chloroform, tetrahydrofuran, and burial pits, the facility has been given a high priority for further action by the MDNR. Also, Mr. Tennent informed PRC inspectors that the facility is on the Michigan Priority List. This is a list of sites designated by the state of Michigan that require further study or action. TCR wishes to get the facility remediated so it can be removed from this list.

2.5 REGULATORY HISTORY

Ethyl, the former owner of the facility, submitted a notification of hazardous waste activity to EPA on August 6, 1980 (Ethyl, 1980a). The facility submitted a RCRA Part A permit application on November 14, 1980. This application listed container storage (S01) of 5,000 gallons of hazardous waste (Ethyl, 1980b). The application listed the following waste codes (and capacities): F002 (6,400 pounds); F004 (5,600 pounds); and F005 (21,000 pounds) (Ethyl, 1980b). Ethyl submitted a closure plan for its hazardous waste storage area (SWMU 1) on June 3, 1983. This plan was approved on October 11, 1983 (EPA, 1983). The closure was completed and

certified on February 14, 1984 (EPA, 1984). No activity by Ethyl occurred at the facility after closure; therefore, they did not file for an EPA hazardous waste activity status after this date.

Ethyl owned the facility from 1936 to 1987. On June 1, 1987, Ethyl donated the facility to the National Counsel for Community Development (NCCD), a charitable organization; however, Ethyl agreed to remain responsible for any remedial action needed at the facility. CMI Tech Center, Inc. (CMI), purchased the facility from the NCCD on December 3, 1987. CMI has changed its name to TCR (Clark, Klein, and Beaumont, 1992). Ethyl and TCR have installed monitoring wells at the facility to monitor possible ground-water contamination and contaminant migration.

TCR, the current owner of the facility, is classified as a small-quantity generator of hazardous waste. Ethyl and TCR do not operate under any air permits or National Pollutant Discharge Elimination System (NPDES) permits.

2.6 ENVIRONMENTAL SETTING

This section describes the climate, flood plain and surface water, geology and soils, and ground water in the vicinity of the TCR facility.

2.6.1 Climate

The climate in Oakland County is influenced by nearby Lake St. Clair. The average daily temperature is 48.5°F. The lowest average daily temperature is 16.1°F in January. The highest average daily temperature is 83.1°F in July (DOC, 1968).

The total annual precipitation for the county is 32 inches (DOC, 1968). The mean annual lake evaporation for the area is about 30 inches (DOC, 1968). The 1-year, 24-hour maximum rainfall is about 2.2 inches (DOC, 1963). The prevailing wind is from the southwest. The average wind speed is 10.3 miles per hour (NOAA, 1989).

2.6.2 Flood Plain and Surface Water

The TCR facility is not located in a 100-year flood plain (FEMA, 1990). The nearest surface water body, a small pond in a cemetery, is about 1 mile southeast of the facility and is apparently not used for recreation or any other purpose. No major surface water bodies exist in the vicinity of the TCR facility.

Surface water drainage at the facility is probably minimal because of the area's flat topography. The nearest storm sewer is located along the eastern boundary of the facility. This sewer ultimately discharges to the Detroit River. TCR does not operate under any storm water or wastewater discharge permits.

2.6.3 Geology and Soils

The geology and soils beneath the TCR facility consist of unconsolidated deposits overlying bedrock. The unconsolidated deposits are water-laid moraines consisting of sand and clay (WMU, 1981). Boring logs from 14 on-site monitoring wells show that a sand unit extends from ground surface to about 30 feet below ground surface. Below the sand unit, a clay unit is encountered. In 1941, Ethyl attempted to drill a water well on site. During drilling, the clay unit was encountered from 23 feet to 150 feet below ground surface. Mixed clay and shale was then encountered to 561 feet below ground surface (Ethyl, 1985).

Bedrock in the vicinity of the TCR facility is encountered at about 150 feet below ground surface. The uppermost bedrock units encountered are Mississippian Period Berea Sandstone and Bedford Shale, and in some instances Devonian Period Antrium Shale. The Berea Sandstone, Bedford Shale, and Antrium Shale are about 30, 50, and 70 feet thick, respectively, near the facility (WMU, 1981).

2.6.4 Ground Water

Ground water beneath the TCR facility is approximately 10 feet below ground surface in the sand unit. Measurements of ground-water levels in the 14 on-site monitoring wells indicate that ground water flows east to southeast below the facility. Ground water may be intercepted by a stormsewer system along the eastern boundary of the facility because of the fact that ground-water flow gradients increase towards the facility's eastern boundary. The sewer into which ground water may be discharging flows into the Twelve Town System designed to drain both sides of Pinecrest Avenue. This sewer ultimately discharges to the Detroit River. Estimates of the hydraulic gradient of the water table beneath the facility range from 0.0042 to 0.01. Hydraulic conductivity values for the sand unit range from 1.35×10^{-5} to 3.2×10^{-5} centimeters per second (cm/s) (Ethyl, 1986b).

The Geological Survey Division of the MDNR searched and found that its files contained no well log data or other information on any water wells within 3 miles of the facility. The MDNR also concluded that it is very unlikely an aquifer exists near the facility (Ethyl, 1986b).

Ground-water contamination has been noted in some of the on-site monitoring wells (see Figure 2 for on-site monitoring well locations). Chloroform and toluene were noted by Burial Pit Area 1. Concentrations of these constituents ranged from 1 to 5 parts per billion (ppb). Ethyl stated that it will be difficult to determine if chloroform is from a local source or at background concentrations because, according to Ethyl, even Detroit's municipal water supply contains about 30 ppb of chloroform (Ethyl, 1986a). Ethyl also felt that the toluene did not pose a threat to the environment because it was only found in one well, and because ground water is not used in the area as a source of drinking water (Ethyl, 1986b). Traces of organic contamination were also observed in Monitoring Wells 8, 9, 10, and 14. This contamination is most likely caused by past burial pit disposal by Ethyl in the area (Ethyl, 1986b). Ethyl states that the volatile and slightly soluble hydrocarbons will evaporate to the atmosphere from the unconfined ground water in the sand unit and therefore pose little threat to the environment (Ethyl, 1986b).

2.7 RECEPTORS

The TCR facility occupies 34 acres in an area of mixed use in Ferndale, Michigan. Ferndale has a population of 25,084 (PRC, 1992).

The facility is bordered on the north by a wooded area and Ferndale High School; on the west by Goodwill Printing and private residences; on the south by All American Car Rental, the Detroit Store Fixture Co., General Type and Supply, A1 Transmissions, and Tuffy Service Center; and on the east by a Citgo gas station and private residences. The nearest school, Ferndale High School, is less than 1 mile north of the facility. Facility access is controlled by a security fence, a 24-hour, 7-day-a-week security guard system, and a logbook.

The nearest surface water body is a small pond about 1 mile southeast of the facility and does not appear to have any uses. No major surface water bodies exist within 2 miles of the facility.

Ground water is not used as a source of drinking water. There are no ground-water wells within 2 miles of the facility. No sensitive environments are located on site, and no wetlands exist within 4 miles of the facility. Palmer Park is 1.5 miles southeast of the facility, and a city park is 2 miles northwest of the TCR facility.

3.0 SOLID WASTE MANAGEMENT UNITS

This section describes the four SWMUs identified during the PA/VSI. The following information is presented for each SWMU: description of the unit, dates of operation, wastes managed, release controls, history of documented releases, and PRC observations. Figure 2 shows the SWMU locations.

SWMU 1	**Former Drum Storage Area (DSA)**
Unit Description:	The former DSA is outside near the middle of the facility property. The unit was used to store F002, F004, and F005 hazardous wastes in 55-gallon drums. The unit is a concrete pad which measures 95 by 130 feet (see Photograph No. 1).
Date of Startup:	The unit began operating in 1936.
Date of Closure:	The unit has been inactive since 1984, when it was certified closed. (EPA, 1984).
Wastes Managed:	This unit managed F002, F004, and F005 hazardous wastes in containers. It is not known how these wastes were disposed; however, all wastes were removed before closure was approved and certified.
Release Controls:	This unit is outside made of concrete and is not bermed.
History of Documented Releases:	No releases from this SWMU have been documented.
Observations:	This unit did not contain any hazardous or nonhazardous wastes at the time of the VSI.
SWMU 2	**Burial Pit Area 1**
Unit Description:	Burial Pit Area 1 (11 pits total) is in a wooded area in the northwest corner of the facility (see Photograph No. 2). Each pit was usually 10 by 10 feet in area and less than 10 feet deep.

	Debris in the pits was periodically covered with sand until the pit was full.
Date of Startup:	These pits were first used in 1963 (Ethyl, 1985).
Date of Closure:	These pits have been inactive since the early 1980s (Ethyl, 1985).
Wastes Managed:	Laboratory and pilot plant glassware and residues were buried in the pits (Ethyl, 1985).
Release Controls:	There are no release controls for these pits.
History of Documented Releases:	Soil borings in 1984 revealed soil contamination around the most recently dug pit. Also, monitoring well ground-water samples from around the most recent burial pit showed 1 to 5 µg/L of toluene and chloroform, and 40 to 400 µg/L of tetrahydrofuran. Ethyl believes that the toluene and chloroform are at too low a concentration to pose a threat to the environment, and that the tetrahydrofuran is from pipe glue used to install the wells.
Observations:	Snow cover at the time of the VSI prevented close inspection of the pits. Natural material excavated to form the pits was evident (see Photograph No. 2).
SWMU 3	**Burial Pit Area 2**
Unit Description:	Additional burial pits were excavated in the area now covered by the northwest corner of the parking lot on the east side of the facility. There is no indication of the size of these pits. Ethyl describes the pits as small, manually dug holes located between trees. Neither Ethyl nor TCR has any records of what these burial pits contained nor are they marked. PRC and TCR facility representatives had no knowledge of these pits during the VSI. Evidence of these pits were revealed in Ethyl documents collected by TCR and sent to PRC after the VSI.

Date of Startup:	Ethyl began using these pits in 1939 (Ethyl, 1985).
Date of Closure:	These pits have not been used since 1955 (Ethyl, 1985).
Wastes Managed:	Laboratory and pilot plant glassware and residues were buried in Burial Pit Area 2.
Release Controls:	There are no release controls for these pits.
History of Documented Releases:	Traces of organic contamination were observed in ground water samples from Monitoring Wells 8, 9, 10, and 14 in this area (Ethyl, 1986b).
Observations:	Because these burial pits were discovered after the VSI, they were not inspected.
SWMU 4	**Container and Tank Storage Area (CTSA)**
Unit Description:	The CTSA is outdoors near the middle of the facility property. The CTSA is used to store wastes for disposal. The unit measures approximately 30 by 50 feet and consists of a concrete floor and curb. The curb encloses both 55-gallon drums and three 500-gallon tanks in the CTSA. The unit is covered with a roof and enclosed in a chain-link fence with a gate (see Photograph No. 3).
Date of Startup:	This unit began operating around 1987.
Date of Closure:	This unit is active.
Wastes Managed:	This unit manages waste hydraulic and waste motor oil and waste mineral spirits (D001). Wastes in this unit are ultimately picked up for disposal.
Release Controls:	This unit has a concrete floor and curbing.

History of Documented Releases:	No releases from this SWMU have been documented.
Observations:	The unit contained full and empty product drums at the time of the VSI. The unit also contained 11 drums, ranging in size from 30 to 55 gallons, of waste oil, and three 500-gallon aboveground storage tanks containing waste hydraulic oil, waste motor oil, and waste mineral spirits (D001). There were no cracks apparent in the concrete floor and curbing.

4.0 AREAS OF CONCERN

PRC identified no AOCs during the PA/VSI.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The PA/VSI identified four SWMUs and no AOCs at the TCR facility. Background information on the facility's location, operations, waste generating processes, history of documented releases, regulatory history, environmental setting, and receptors is presented in Section 2.0. SWMU-specific information, such as the unit's description, dates of operation, wastes managed, release controls, history of documented releases, and observed condition, is presented in Section 3.0. AOCs are discussed in Section 4.0. Following are PRC's conclusions and recommendations for each SWMU and AOC. Table 3 summarizes the SWMUs and AOCs at the TCR facility and recommended further actions.

SWMU 1 **Former Drum Storage Area**

Conclusions: This unit was certified closed by the MDNR in 1984. At the time of the VSI, this unit did not contain hazardous wastes. No documented releases from this unit have occurred. This unit has a low potential for release to ground water, surface water, air, and on-site soils.

Recommendations: PRC recommends no further action for this SWMU.

SWMU 2 **Burial Pit Area 1**

Conclusions: These pits were never regulated under RCRA. Sampling in the area of these pits revealed releases to the environment. The potential for release to environmental media is summarized below.

Ground Water: This unit has a documented release to ground water. Ground water is about 7 feet below ground surface at the facility. In 1984, monitoring wells installed around the most recent burial pit revealed ground water contaminated with toluene, chloroform, and tetrahydrofuran.

Surface Water: The potential for a release to surface water is low. The nearest surface water body is a small isolated pond measuring about 100 by 500 feet about 1 mile southeast of the facility.

Air: The potential for a release to air is low. These units are covered by soil that inhibits the release of vapors.

TABLE 3

SWMU SUMMARY

SWMU	Dates of Operation	Evidence of Release	Recommended Further Action
1. Former Drum Storage Area	1936 to 1984	None	No further action at this time
2. Burial Pit Area 1	1963 to early 1980s	Contaminated soil and ground water near most recent pit	Characterize extent of soil and ground-water contamination
3. Burial Pit Area 2	1939 to 1955	Trace organic contamination of ground water	Characterize extent of soil and ground-water contamination
4. Container Storage Area	1987 to present	None	No further action at this time

On-Site Soils: This unit has a documented release to on-site soils. Drilling near the most recent burial pit revealed organic contamination in subsurface soils.

Recommendations: The extent of soil and ground-water contamination in the vicinity of the burial pits should be fully characterized.

SWMU 3 **Burial Pit Area 2**

Conclusions: These burial pits were never regulated under RCRA. Sampling in the area of these pits revealed releases to the environment. The potential for release to environmental media is summarized below.

Ground Water: This unit has a documented release to ground water. Monitoring wells installed in the area of Burial Pit Area 2 revealed trace organic contamination of ground water.

Surface Water: The potential for a release to surface water is low. The nearest surface water body is a small isolated pond about 1 mile southeast of the facility that is apparently unused. No major surface water bodies exist within 2 miles of the facility.

Air: The potential for a release to air is low. These pits are covered by soil that inhibits the release of vapors.

On-Site Soils: The potential for a release to on-site soils is high. Wells installed near this SWMU revealed ground-water contamination. The soils around these pits may also be contaminated.

Recommendations: The extent of soil and ground-water contamination in the vicinity of these burial pits should be fully characterized.

SWMU 4 **Container and Tank Storage Area (CTSA)**

Conclusions: This unit is used to store hazardous wastes for less than 180 days, and has sufficient secondary containment. No documented releases from this unit have occurred. This unit has a low potential for release to ground water, surface water, air, and on-site soils.

Recommendations: PRC recommends no further action for this SWMU.

REFERENCES

Clark, Klein and Beaumont, 1992. Letter from Tyler D. Tennent to PRC Environmental Management, Inc. (PRC), February 21.

Ethyl Corporation (Ethyl), 1980a. Notification of Hazardous Waste Activity, August 6.

Ethyl, 1980b. Resource Conservation and Recovery Act (RCRA) Part A Permit Application, November 14.

Ethyl, 1985. Letter to Oakland County Health Division Environmental Health Service, December 6.

Ethyl, 1986a. Letter to Michigan Department of Natural Resources (MDNR), Remedial Action Section, May 19.

Ethyl, 1986b. Letter to MDNR, Ground-Water Quality Division, November 14.

Federal Emergency Management Agency (FEMA), 1990. National Flood Insurance Program Community Status Book, Federal Insurance Administration, Washington, D.C.

MDNR, 1982. RCRA Inspection Report, August 4.

MDNR, 1986. Site Description/Executive Summary of Ethyl, March 14.

National Oceanic and Atmospheric Administration, 1989. Local Climatological Data, Detroit Metropolitan Airport, Michigan.

PRC, 1992. Telephone Conversation with Ferndale City Clerk, February 26.

T.C. Realty, Inc., 1992. Facility sketch.

United States Department of Commerce (DOC), 1963. Rainfall Frequency Atlas of the United States, Technical Paper No. 40, U.S. Government Printing Office, Washington, D.C.

DOC, 1968. Climatic Atlas of the United States, U.S. Government Printing Office, Washington, D.C.

United States Environmental Protection Agency (EPA), 1983. Letter to C. J. Worrell, Ethyl, October 11.

EPA, 1984. Letter to W. J. Brown, Ethyl, March 16.

United States Geological Survey (USGS), 1986. Topographic Map for the Royal Oak Quadrangle, 7.5-Minute Series.

Western Michigan University (WMU), 1981. Hydrogeologic Atlas of Michigan, Department of Geology, Kalamazoo, Michigan.

ATTACHMENT A

EPA PRELIMINARY ASSESSMENT FORM 2070-12

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
MI	MID041803123

II. SITE NAME AND LOCATION

01 SITE NAME *(Legal, common, or descriptive name of site)*	02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER				
T.C. Realty Inc. (TCR)	1600 W. Eight Mile Road				
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Ferndale	MI	48220	Oakland	125	
09 COORDINATES: LATITUDE 42°26'47"N | LONGITUDE 083°08'50"W					

10 DIRECTIONS TO SITE *(Starting from nearest public road)*
Route 10 north to 8 Mile Road; east on 8 Mile Road for about 2.8 miles; facility is on north side of 8 Mile Road

III. RESPONSIBLE PARTIES

01 OWNER *(if known)*	02 STREET *(Business, mailing residential)*		
TCR	1600 W. Eight Mile Road		
03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Ferndale	MI	48220	(313) 399-9600
07 OPERATOR *(If known and different from owner)*	08 STREET *(Business, mailing, residential)*		
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER

13 TYPE OF OWNERSHIP *(Check one)*
☒ A. PRIVATE ☐ B. FEDERAL: _____ (Agency Name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER _____ (Specify) ☐ G. UNKNOWN

14. OWNER/OPERATOR NOTIFICATION ON FILE *(Check all that apply)*
☒ A. RCRA 3010 DATE RECEIVED: 08/06/80 (by Ethyl Corporation) (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE *(CERCLA 103 c)* DATE RECEIVED: / / (MONTH DAY YEAR) ☒ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES ☐ NO DATE 02/04/92
BY *(Check all that apply)*
☐ A. EPA ☒ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)
CONTRACTOR NAME(S): PRC Environmental Management, Inc.

02 SITE STATUS *(Check one)*
☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION
1940 (BEGINNING YEAR) | Present (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Ignitables (D001), corrosives (D002, reactives (D003), halogenated solvents (F002), nonhalogenated solvents (F004 and F005), chloroform (K009 or K010), tetrahydrofuran (P110), waste oil, and waste gas

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Potential hazard to the environment exists because of soil and ground-water contamination. This contamination is the result of operations by Ethyl Corporation, the previous owner of the facility.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION *(Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents.)*

☐ A. HIGH *(Inspection required promptly)* ☐ B. MEDIUM *(Inspection required)* ☒ C. LOW *(Inspect on time-available basis)* ☐ D. NONE *(No further action needed; complete current disposition form)*

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF *(Agency/Organization)*		03 TELEPHONE NUMBER
Kevin Pierard	U.S. EPA Region 5		(312) 886-4448
04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Kevin Schnoes		PRC-EMI	(312) 856-8700	02/19/92 (MONTH DAY YEAR)

ATTACHMENT B

VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS

VISUAL SITE INSPECTION SUMMARY

T.C. Realty, Inc. (TCR)
Ferndale, Michigan
MID 041 803 123

Date:	February 4, 1992
Facility Representatives:	Jeff Norton, Environmental Engineer, TCR Diane Zekind, Director - Advance Planning and Administration, TCR Tyler Tennent, Attorney from Clark, Klein and Beaumont, representing TCR
Inspection Team:	Kevin Schnoes, PRC Environmental Management, Inc. (PRC) Deb Harrity, PRC
Photographer:	Kevin Schnoes
Weather Conditions:	Calm, overcast, temperature 30°F
Summary of Activities:	The visual site inspection (VSI) began at 10:00 a.m. with an introductory meeting. The inspection team discussed the purpose of the VSI and agenda for the visit. Facility representatives then discussed the TCR facility's past and present operations, solid wastes generated, and release history. TCR representatives also discussed information they had concerning Ethyl Corporation, the previous owner of the facility. Most of the information was exchanged on a question-and-answer basis. TCR representatives provided the inspection team with copies of documents requested. The VSI tour began at 10:45 a.m. The VSI tour included inspection of three on-site SWMUs. Burial Pits 2 (SWMU 3) was not inspected during the VSI because neither PRC or TCR representatives had any knowledge of this SWMU at the time of the VSI. The SWMUs inspected were the current Container and Tank Storage Area, Ethyl Corporation's Former Drum Storage Area, and the Burial Pit Area 1. The visit also included an inspection of areas that used to contain underground storage tanks (UST). Photographs of SWMUs 1, 2, and 4 were taken. However, SWMU 3 was not photographed. The tour concluded at 11:30 a.m., after which the inspection team held an exit meeting with TCR representatives. The VSI was completed and the inspection team left the facility at 11:55 a.m.

Photograph No. 1 Location: SWMU 1
Orientation: North Date: February 4, 1992
Description: Former drum storage area (DSA) used by Ethyl Corporation (Ethyl)

Photograph No. 2 Location: SWMU 2
Orientation: Northwest Date: February 4, 1992
Description: Old burial pit at northwest corner of the facility in Burial Pit Area 1 used by Ethyl

Photograph No. 3 Location: SWMU 4
Orientation: North Date: February 4, 1992
Description: Container and Tank Storage Area (CTSA) used by TCR; currently contains full and empty product drums in addition to drums and tanks containing waste oil and waste mineral spirits

ATTACHMENT C

VISUAL SITE INSPECTION FIELD NOTES

Jim - Sr Reg Spec
Rich - ~~Sr~~ Health, Safety, + Env. Mngr
Matt - Safety

0920 Arrive @ Diversey-Wyandotte
PRC - Kevin Schnoes, Deb Harrity
Diversey-Wyandotte - Matt Pucinski, Rich McLane
Jim LaPorte

Purpose of ~~V~~ KS PA/VSI explained to Diversey-Wyandotte

Sold by BASF 10 years ago; facility will be closing in about 2-3 years

← Facility only produces off-spec wastes now.

Make cleaning, sanitizing, + process chemicals for dairy, food, ag, institutional, + laundry → made for customers specifications, → ship all different sizes.

~~Waste list~~

① Non-haz petroleum distillate → by product

K. Schnoes 2/5/92

(94)

(5)(3)(4)(6) Lab solvents (Lab Pack)

(6) Paint stripper → discontinued product

(7) Byproducts from batch } same

(8) Off-spec waste from batch } same operation

(9) Discontinued raw material KS

(7) KS Off-spec product → Hydrogen peroxide

(10)(11) Discontinued raw material

(12) Lab pack → from lab clean-out

(11) Off-spec Alkaline machine dishwashing detergent

(13) Off-spec Spectrum HDS

(14)(16) Waste oil

(15) Lab wastes

Waste Storage Areas

✓ Accumulated in 5 gallon buckets in labs

K. Schnoes 2/5/92

(95)

✓ Storage area on ~~second~~ 3rd floor KS for off-spec wastes

✓ Waste oil stored in 2500 gallon storage tank

✓ WW Pre-treatment system → for reactive WW & cooling water, most generated in liquid dept. collected in pits → pumped to pretreatment pit & neutralized, 10,000 gal tank in powder dept

NPDES & Air permits → will be sent at later date)
for dust control system

No USTs or PCBs

Spill notice → 6 violations to WW discharge permits →

K. Schnoes 2/5/92

(96)

3 pH violations

500 ft x 600 ft

Fencing around site ↑
~300,000 ft² → building

~70 employees, 2 shifts
Cameras, off hours security guard

1896 - building built

1030 VSI → Diversey-Wyandotte will take their own photos @ same locations as PRC

Photo 1
Lab area

Photo 2
Dust collector (3rd floor)

Photo 3 → about 15'x20'
Container storage area (3rd floor)
empty → operating since mid 1980s

Photo 4 (3rd floor)
Old CSA → probably about 20'x20'

K. Schmoes 2/5/92

(97)

Photo 5 (1st floor) mid 1980's
Non-haz waste oil tank
Bay door → oil could leak under,
some curbing; drain for Pit B nearby

Photo 6 (1st floor)
WW Treatment Pit B → 500 gallons → will be sent capacities of other pits

Photo 7 (1st floor)
Waste oil drum → 30 gallon, 3/4 full
No leak evident

Photo 8 (in operation since 1978)
Waste Water Neutralization Pit

Photo 9 (4th floor) ~~that~~ KS
10,000 gallon tank → part of WW Treat system for powder area

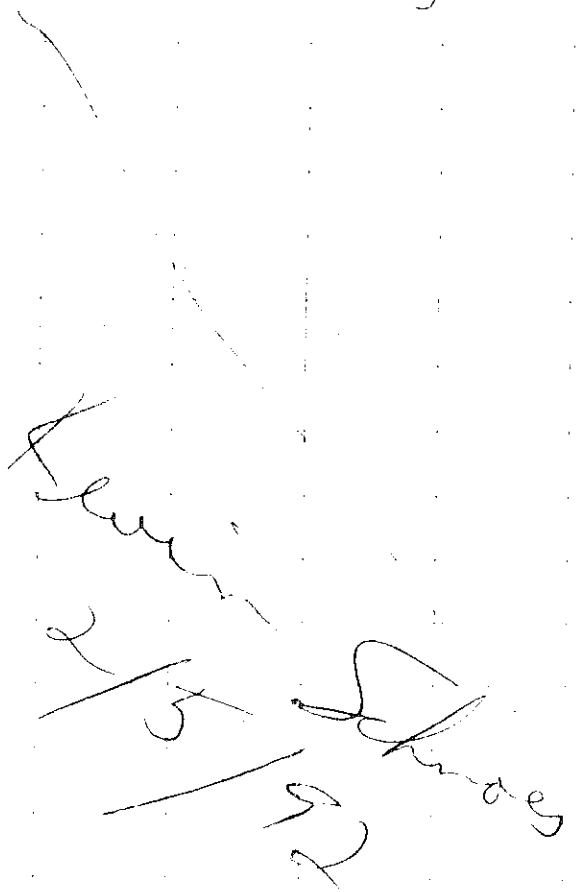
K. Schmoes 2/5/92

Material in tank from washing out powder area. Tank is used to collect waste water so it does not all go to treatment system @ once
No containment
Hole in floor
just started using this tank for treatment system

1120 End VSP, start wrap-up meeting

1148 - Site area reconnaissance:
East: BASF Corporation
West: Residential Community
North: Residential Area
J.C. Manufacturing

South: Mixed commercial and residential and Peters Equipment DWC Printing



CORRECTIVE ACTION STABILIZATION QUESTIONNAIRE

Completed by: Mary Wojciechowski
Date: June 14, 1992

Background Facility Information

Facility Name: T.C. Realty, Inc. (formerly Ethyl Corporation)
EPA Identification No.: MID 041 803 123
Location (City, State): Ferndale, Michigan
Facility Priority Rank: Low

1. Is this checklist being completed for one solid waste management unit (SWMU), several SWMUs, or the entire facility? Explain.

4 SWMUs

Status of Corrective Action Activities at the Facility

2. What is the current status of HSWA corrective action activities at the facility?

( ) No corrective action activities initiated (Go to 5)
(X) RCRA Facility Assessment (RFA) or equivalent completed
( ) RCRA Facility Investigation (RFI) underway
( ) RFI completed
( ) Corrective Measures Study (CMS) completed
( ) Corrective Measures Implementation (CMI) begun or completed
( ) Interim Measures begun or completed

3. If corrective action activities have been initiated, are they being carried out under a permit or an enforcement order?

( ) Operating permit
( ) Post-closure permit
( ) Enforcement order
(X) Other (Explain)

Past UST remediation was overseen by the local fire department. Soil samples showed no remaining contamination.

4. Have interim measures, if required or completed [see Question 2], been successful in preventing the further spread of contamination at the facility?

( ) Yes
( ) No
( ) Uncertain; still underway
(X) Not required

Additional explanatory notes:

No interim measures have been formerly required, although they appear to be necessary to address existing soil and ground-water contamination. See Question 18 for further information.

Facility Releases and Exposure Concerns

5. To what media have contaminant releases from the facility occurred or been suspected of occurring?

(X) Ground water
( ) Surface water
( ) Air
(X) Soils

6. Are contaminant releases migrating off-site?

( ) Yes; Indicate media, contaminant concentrations, and level of certainty.

Groundwater:
Surface water:
Air:
Soils:

( ) No
(X) Uncertain

7a. Are humans currently being exposed to contaminants released from the facility?

( ) Yes (Go to 8a)
( ) No
(X) Uncertain

Additional explanatory notes:

It is not known if contaminants are moving off site

7b. Is there a potential for human exposure to the contaminants released from the facility over the next 5 to 10 years?

(X) Yes
( ) No
( ) Uncertain

Additional explanatory notes:

The nearest surface water is one mile southeast of the facility. Ground water is not used for drinking and flows southeast.

8a. Are environmental receptors currently being exposed to contaminants released from the facility?

( ) Yes (Go to 9)
( ) No
(X) Uncertain

Additional explanatory notes:

It is not known if contaminants are moving off site.

8b. Is there a potential that environmental receptors could be exposed to the contaminants released from the facility over the next 5 to 10 years?

(X) Yes
( ) No
( ) Uncertain

Additional explanatory notes:

The nearest surface water is 1 mile southeast of the facility. Ground water is not used for drinking and flows southeast.

Anticipated Final Corrective Measures

9. If already identified or planned, would final corrective measures be able to be implemented in time to adequately address any existing or short-term threat to human health and the environment?

   (X) Yes
   ( ) No
   ( ) Uncertain

   Additional explanatory notes:

The facility is on MDNRs list of priority sites and intends to go through remediation.

10. Could a stabilization initiative at this facility reduce the present or near-term (e.g., less than two years) risks to human health and the environment?

    (X) Yes
    ( ) No
    ( ) Uncertain

    Additional explanatory notes:

Removal of contaminated soil and collection and treatment of contaminated ground water would be appropriate stabilization initiatives.

11. If a stabilization activity were not begun, would the threat to human health and the environment significantly increase before final corrective measures could be implemented?

    ( ) Yes
    ( ) No
    (X) Uncertain

    Additional explanatory notes:

It is not known if contaminants are moving off site.

Technical Ability to Implement Stabilization Activities

12. In what phase does the contaminant exist under ambient site conditions? Check all that apply.

    ( ) Solid
    (X) Light non-aqueous phase liquids (LNAPLs)
    ( ) Dense non-aqueous phase liquids (DNAPLs)
    (X) Dissolved in ground water or surface water
    ( ) Gaseous
    ( ) Other _____

13. Which of the following major chemical groupings are of concern at the facility?

    (X) Volatile organic compounds (VOCs) and/or semi-volatiles
    ( ) Polynuclear aromatics (PAHs)
    ( ) Pesticides
    ( ) Polychlorinated biphenyls (PCBs) and/or dioxins
    ( ) Other organics
    ( ) Inorganics and metals
    ( ) Explosives
    ( ) Other _____

14. Are appropriate stabilization technologies available to prevent the further spread of contamination, based on contaminant characteristics and the facility's environmental setting? [See Attachment A for a listing of potential stabilization technologies.]

(X) Yes; Indicate possible course of action.

Removal of contaminated soil and collection and treatment of contaminated ground water would be appropriate stabilization initiatives.

( ) No; Indicate why stabilization technologies are not appropriate; then go to Question 18.

15. Has the RFI, or another environmental investigation, provided the site characterization and waste release data needed to design and implement a stabilization activity?

( ) Yes
(X) No

If No, can these data be obtained faster than the data needed to implement the final corrective measures?

(X) Yes
( ) No

Timing and Other Procedural Issues Associated with Stabilization

16. Can stabilization activities be implemented more quickly than the final corrective measures?

( ) Yes
( ) No
(X) Uncertain

Additional explanatory notes:

More sampling needs to be conducted.

17. Can stabilization activities be incorporated into the final corrective measures at some point in the future?

(X) Yes
( ) No
( ) Uncertain

Additional explanatory notes:

Conclusion

18. Is this facility an appropriate candidate for stabilization activities?

( ) Yes
( ) No, not feasible
( ) No, not required
(X) Further investigation necessary

Explain final decision, using additional sheets if necessary.

In 1984, sampling revealed organic contamination in on-site soils. The source of contamination is believed to be two inactive pits used for burial of laboratory and pilot plant glassware. The research and pilot plant activities involved the use of automotive fuel, lubricant adhesives, emissions controls, engine dynamometers and chassis dynamometers. Ground-water monitoring results revealed 1 to 5 ppb of toluene and chloroform and 40 to 4,000 pph of tetrahydrofuran. The facility is on the MDNR list of priority sites and intends to undergo remediation. Ground-water monitoring is still occurring.

Appropriate stabilization activities would include removal of contaminated soil and collection and treatment of contaminated ground water. However, more sampling needs to be conducted before stabilization can be implemented.